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**YALE CLASSICAL STUDIES**



# YALE CLASSICAL STUDIES

EDITED FOR THE DEPARTMENT OF CLASSICS

BY

AUSTIN M. HARMON

HILLHOUSE PROFESSOR OF  
THE GREEK LANGUAGE AND LITERATURE

VOLUME THREE



NEW HAVEN

YALE UNIVERSITY PRESS

*London, Humphrey Milford, Oxford University Press*

MDCCCCXXXII

**568664**

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**SELEUCID BABYLONIA  
BULLAE AND SEALS OF CLAY  
WITH GREEK INSCRIPTIONS**



**BY M. ROSTOVTZEFF**



# SELEUCID BABYLONIA

## BULLAE AND SEALS OF CLAY WITH GREEK INSCRIPTIONS

### PREFACE

**T**HIS short preface is intended exclusively to serve the purpose of extending thanks to all who helped me in collecting and investigating the material used in this paper and in producing this essay. In the first place I must mention the courtesy and liberality of the Oriental Institute of Chicago University. The administration of this Institution not only gave me access to their rich collection of bullae but took the trouble of sending the bullae twice to New Haven that I might have opportunity to study them at my leisure and convenience. The same cordial liberality has been shown to me at Berlin in the Vorderasiatische Abteilung of the Staatliche Museen. Messrs. W. Andrae and J. Jordan gave me access to the bullae, allowed me to publish the inedita of the Berlin Collection and helped me to the excellent photographs which are reproduced on my plates, after having been reproduced in J. Jordan's beautiful volume on the Uruk-Warka Excavations.

I found the same kindness in the other museums enumerated in my Introduction : The Yale Babylonian Collection at New Haven, the University of Pennsylvania Museum at Philadelphia, the Louvre and the Cabinet des Médailles at Paris, the Ashmolean at Oxford, the Musées Royaux du Cinquantenaire at Brussels, the National Museum at Copenhagen. To the keepers of these institutions and to Col. Allotte de la Fuye (Versailles) and Abbé de Genouillac (Paris), owners of interesting little private collections, I render my sincere thanks. I must also express here my recognition of the extreme kindness shown by Michigan University, which is conducting promising excavations at Seleucia on the Tigris, by the Director of these excavations, Professor L. Waterman, by Professor Campbell Bonner, and by R. H. McDowell in permitting me to use for my paper some of the bullae found at Seleucia.

In matters numismatic I was helped by the profound knowledge of Dr. E. T. Newell, president of the American Numismatic Society, who supplied me with excellent photographs of some of

his Seleucid coins. Assistance of this kind has also been given me, as usual, in the Cabinet des Médailles at Paris and in the Department of Coins and Medals of the British Museum. Valuable archaeological references I owe to the kindness of Professor Emeritus P. Wolters of Munich. My deepest thanks are due to all these gentlemen as well as to three of my immediate colleagues: to Professor P. V. C. Baur who revised my notes on the bullae in Berlin and read my manuscript, to Professor G. Vernadsky who has verified and corrected the references in the Catalogue and notes, and finally to Professor A. M. Harmon, whose help in giving more idiomatic form to my paper and in the revision of the proofs has been invaluable.

M. R.

*November 11, 1930,  
New Haven.*

## I INTRODUCTION

**I**N various museums of Europe and of the United States there are kept peculiar objects of clay or bitumen, generally though inappropriately designated as "bullae." They have the shape of spheroid lumps with a hole of oval section through the lump from one end to the other. Inside this tube, almost exactly in the middle, are generally found impressions of one or more strings. In the core of the bulla there are holes left in the clay by decayed strings. Within the tube one sometimes, but rarely, finds remains of carbonized or decayed stuff in larger or smaller quantities (Pl. I, 1).

The surface of the lump is covered with impressions of seals, of larger and smaller size. Some large bullae bear as many as forty impressions, some smaller have just one or two. The distribution of the impressions is chaotic. On most of the specimens a line of impressed dots, more or less regularly distributed, vertically divides the surface of the bulla. The number of dots varies from four to thirteen and more. There is no certain relation between the number of the seals and that of the dots.

The same seal is sometimes impressed twice on the same bulla. Typical in this respect is one of the specimens in the Cabinet des Médailles (our Pl. III, 6; diam. 0.039–0.031). Three private seals of Greek character (Amor, peacock, gazelle) have each been impressed twice on the surface of the bulla. Peculiar is the bulla of the Yale Babylonian Collection No. 3160 (diam. 0.032–0.027). Of nine impressions three or even four show the same female head (Pl. III, 5).

Some of the bullae are of grayish, yellowish, or reddish color; i.e., they show the natural color of the clay. Whether they have been baked or not is difficult to say. I think that most of them were never subjected to the action of fire. The only exceptions are those which show a black or blackish color. These certainly have been affected by fire. Parts of the temple in which the bullae were kept may have been burned.

Most of the extant bullae were found in the ruins of the age-old Sumerian and Babylonian city of Uruk (Erech), modern Warka, one of the largest and most promising sites in Babylonia. The ruins of this city were visited and partly excavated by Loftus, the well-known English explorer. Then, shortly before the war,

the Germans began a systematical excavation of the site. After the war the concession for excavating Warka was given to Yale University, but the University was not able to find money for the project. The concession, therefore, was transferred to the Germans again, who are now systematically exploring these interesting and promising ruins.

Some of the Warka bullae were found during the first German excavations and are now in the Vorderasiatische Abteilung of the Kaiser Friedrich Museum in Berlin.<sup>1</sup> Most of them, however, were picked up by natives and sold in larger and smaller lots to various public museums and private collections.

According to Jordan all the bullae collected by him were found scattered all over the rooms of the large temple of Uruk called "Wuswas" by the natives. The most important part of this ruin, carefully excavated by Mr. Jordan, was the temple of Anu and Antum (Jordan, *op. cit.*, pp. 10 ff. and Pls. 1, 2, 6-75 [architecture], 78-108 [small finds]). This temple, according to the inscriptions on the bricks, was built (on the site of a much older temple) by a Hellenized Babylonian whose Babylonian name was Anunballit, son of Anubaltsaikhi, while his Greek name was Kephalon. The habit of having two names is a very common feature of the life of Orchoi in the Hellenistic period as we know it from the cuneiform tablets of that time. He is called in the inscriptions "the great, the city-lord of Uruk" and was probably, therefore, either the military governor of the city (*έπιστάτης*) or the chief magistrate of the Graeco-Babylonian community (*στρατηγός*), or both epistates and strategos. We know of the existence of such a combination both at Babylon in the Hellenistic period (Dittenberger, *OGIS*, 254) and in Dura in the Parthian and Roman times (Cumont, *Fouilles de Doura-Europos*, pp. 450 ff., No. 134; cf. *Excavations at Dura*, II Prelim. Report, p. 92, No. H4). An epistates is known at Seleucia on the Tigris (Polyb., V, 48, 12; cf. Ditt., *OGIS*, 44, 7; 268, 4; 329, 35).

We know the date of the building of the temple. It is the 2d Nisan of the year 130 of the Seleucid era, which was the fifth year of the rule of Antiochus IV Epiphanes. As we shall see later, the construction of the temple coincides in date with the majority of the dated bullae found in its ruins.

I may note incidentally that Jordan's discovery is of the greatest importance for the history of Hellenistic Syria and Mesopotamia.

<sup>1</sup> On the circumstances under which the bullae were found see J. Jordan, *Uruk-Warka. Nach den Ausgrabungen der deutschen Orientgesellschaft* (1928), pp. 63 ff.

tamia. We know of the endeavors of Epiphanes to Hellenize his kingdom. He bears the reputation, for which the Jews are responsible, of having been a violent, cruel, and ruthless tyrant who had no respect for local religions and local traditions and wanted to transform all the subjects of his kingdom into Greeks at once and by violent means. The history of the Anu-Antum temple shows him in a different light. The majestic temple built by Kephalon certainly should not be attributed to Kephalon alone. Antiochus must have authorized it, and no doubt contributed a good amount of money for the creation of this gorgeous sanctuary. Now there is not the slightest sign of Hellenization in the temple. The gods were Babylonian, the cult was as Babylonian as it could be, the architecture renewed the traditions of the Neo-Babylonian period. We must assume therefore that in Babylonia Antiochus in his policy toward the natives proceeded in a much more prudent and reasonable way than his Jewish enemies would make us believe he acted in Palestine. Far from destroying and robbing temples, he was building and gorgeously adorning them, in this respect quite similar to his Egyptian fellow kings, the Ptolemies.

If he acted otherwise in Palestine, as the Jewish sources insist, his conduct was probably dictated not by religious considerations and blind fanaticism but by political issues, first and foremost by the conduct of the Jews themselves. His situation between the Romans and the Parthians was difficult and it would have been a folly for him to alienate from himself the sympathies of his non-Greek subjects. The history of the temple of Uruk and an inscription of Babylon (Ditt., *OGIS*, 253) show that in Mesopotamia he acted with care and circumspection as regards the local religion and the local traditions. If his conduct in Palestine was different it was no doubt because he found no other way to deal with the Jews.

However that may be, let us go back to the bullae. Found all over the various parts and rooms of the Wuswas, they are now, as I have said, scattered all over Europe and the United States in smaller or larger quantities. The largest collection I know of is in the Oriental Institute of Chicago (642 intact and fragmentary bullae). The second largest is in Berlin. According to the information which I received from the Kaiser Friedrich Museum, it has 163 intact and fragmentary bullae and single clay seals (VA 6011-6169 and VA 6171-6174). Five large intact bullae belong to the Morgan Library Collection (actually kept in the Yale Babylonian Collection). Others belong to Yale Univer-

sity and are kept in the same Babylonian Collection (20 intact and 3 fragmentary bullae). A few (9) pieces are in the Louvre, and there are 7 intact bullae and 11 fragments in the Cabinet des Médailles of the Bibliothèque Nationale of Paris. One bulla is in the Ashmolean, 5 in the Musées Royaux du Cinquantenaire of Brussels; and 10 in the National Museum of Copenhagen. Finally there are some in private collections. I have seen 12 small intact bullae in the collection of Col. Allotte de la Fuye at Versailles and 7 intact bullae and 2 fragments in the collection of Abbé de Genouillac, the well-known excavator of Telloh, at Paris.

Of these groups of bullae some have been published more or less adequately; viz., part of those of Berlin, those of the Morgan Library Collection, those of Oxford, Brussels, Copenhagen, and the Louvre. The rest are unpublished.<sup>2</sup>

Beside the "bullae" described above, the Museum of Berlin possesses a very interesting set of single clay medallions of circular and ovoidal form with seal-impressions on one side and sometimes impressions of the texture of the stuff on which they were affixed on the other. String holes may be noticed going through all of them. I have not seen any such clay medallions in any of the other museums which I have studied from this point of view except in the Cabinet des Médailles in Paris where I noticed two that were somewhat similar, one of which was found at Susa (our Pl. IV, 7 and 9). The medallions of Berlin all come from Warka. Some of the impressions on these clay medallions are identical with impressions found on the bullae described above, and were made no doubt with the same signets.<sup>3</sup>

<sup>2</sup> Berlin: See above, note 1. Many bullae are reproduced on Pls. 86, 87, 88 of the publication of J. Jordan. Cf. *id.*, *Mitteil. d. deutsch. Orientgesellschaft*, LXVI (1928), 13 ff.; Pierpont Morgan: Albert T. Clay, *Babylonian Records in the Library of J. Pierpont Morgan*, part IV, 1923, pp. 52 ff., Pls. 50 and VI; Louvre: L. Delaporte, *Catalogue des cylindres cachets et pierres gravées de style oriental, Musée du Louvre*, II (1923), pp. 177 ff., Nos. A803–812, Pls. 122–123; Ashmolean: G. R. Driver, *Journ. of Hell. St.*, XLIII (1923), 55 f.; Brussels: L. Speleers, *Catalogue des intailles et empreintes orientales des Musées Royaux du Cinquantenaire* (1917), ch. XI, pp. 229 ff., Nos. 204–209; Copenhagen: K. Friis Johansen, "Tonbullen der Seleukidenzeit aus Warka," *Acta Archaeologica*, I (1930), pp. 41 ff., Nos. 1–11 and Figs. 1–19; Collection of Col. Allotte de la Fuye: *Rev. d'Assyr.*, XXIV (1927), 132.

<sup>3</sup> One of the clay medallions at Paris mentioned in the text was found recently at Susa and has been published by Col. Allotte de la Fuye, *Rev. d'Assyr.*, XXIV (1927), 130 f., another belongs to the collection of the

It has been noticed repeatedly by those who have studied the bullae before me that many impressions on the bullae were produced by the same sort of seals that were impressed on clay tablets with cuneiform inscriptions of the Seleucid period found also at Warka, no doubt in the ruins of the great temple of Anu and Antum where the bullae were found. I shall deal with this point again later in this paper. It is a pity that nobody has made a careful comparison between the seal-impressions on the bullae and on the tablets (Pl. I, 2: tablets and bullae found at Uruk).

The little objects which I have described above and which I am going to publish and to analyze in this paper belong to a class well known to all students of oriental, Greek, and Roman antiquity. In discussing this class, let me begin with the Orient.

From time immemorial both in Elam and in Sumeria seals of various forms were commonly used both by kings and priests and by common people. Impressing the seal served the purpose of testifying to the genuineness and integrity either of a text written on a tablet or of things contained in one or another sort of container: a jar, a box, a basket, a flask, a bag, a skin, or the like.

It is well known that from time immemorial seals were impressed by the contracting parties and the witnesses on clay tablets or their envelopes (the so-called "case-tablets"). Thousands of such tablets were found in Sumeria, Babylonia, Elam, Hittite Asia Minor, Syria, Cappadocia, Palestine, and Egypt. There is no need to dwell upon this well-known fact.

Beside these impressions on tablets, hundreds of lumps of clay with seal-impressions have been found all over the Near East. Many of them have been published, but there exists no general study of their use and purpose. However, from occasional and more or less casual remarks one may gather that most of them were used for closing and sealing containers of goods of one or another form. We find, for instance, clay envelopes which were spread over a wooden, or clay, or textile stopper of a jar or flask, and then stamped by means of one or more seals. We have also

late M. Fröhner which is now in the Cabinet des Médailles of Paris. That of Susa shows a beautiful portrait of Seleucus IV on the obverse and an impression of the index finger on the reverse (Pl. IV, 7, cf. 8). The other shows also a portrait head, probably of a king (Antiochus I or II?), and the same finger impression on the back (Pl. IV, 9). Since none has a hole for a string I am inclined to think that the medallions are either regular clay cameos or models for cameos (or incised gems) made by a Greek artist.

lumps of clay that were affixed to boxes, baskets, bags, and skins; most of these last were originally spread over the knot of a cord by which the container was tied, and then stamped.

Others of the oriental clay lumps have more or less the form of our bullae: spherical, lentoidal, ovoidal, or trapezoidal lumps of clay which apparently were suspended on a cord. It is interesting to note that some of these bullae, like some of the jar-envelopes, bear impressions of royal signets. For example, Egyptian and Hittite royal seals were noticed on lumps of clay found by Layard at Kujundjik. Similar clay lumps were used in Sumerian and Babylonian archives for sealing baskets of classified documents. Other little bullae were originally suspended from the necks of domestic animals, etc.<sup>4</sup>

<sup>4</sup> Some remarks on the Assyrian clay bullae may be found in the well-known book of J. Menant, *Recherches sur la Glyptique Orientale*, II (1886), 41, 76, and 200; cf. B. Meissner, *Babylonien und Assyrien*, I (1920), 337. Those in the Louvre are published in L. Delaporte, *Catalogue des cylindres orientaux* etc., I, p. 86, No. K5; those of the Cabinet des Médailles in L. Delaporte, *Catalogue des cylindres, etc., de la Bibl. Nat.*, Text, p. XVIII, and Atlas, Pl. B., Inv. 5. 922 and 5. 924. A clay seal of much earlier times similar to those of Assyria was found at Elam and is now in the Louvre. A good survey of the whole question regarding the jar-envelopes and clay bullae found at Susa will be found in L. Legrain, "Empruntes de cachets Elamites," *Mém. de la Mission arch. de Perse*, XVI (1921), 2 ff.; cf. O. Weber, "Altorientalische Siegelbilder," *Der Alte Orient*, XVII-XVIII (1920). On the bullae Legrain writes as follows: "B. Les Bulles.—Un sac ne se ferme pas comme une jarre. Le tampon d'argile qui recouvre le noeud de la corde, c'est la bulle. Elle est plus ou moins ronde, avec des trous par où les liens s'engageaient dans la masse, et soigneusement couverte d'empruntes visibles seulement par portions à cause de la convexité de la surface." Legrain reproduces and describes five types of bullae; "a) Bulle sphérique (Fig. 298) avec trois trous de corde. b) Bulle en forme de noix (Fig. 301). c) Bulle losangée à quatre ou six faces (Figs. 299 et 300). Elle offre un développement plus aisément de l'emprinte. Trou de corde à chaque extrémité. d) Bulle pyramidale, peut-être au sommet d'une tige ou baguette carrée dont elle porte l'impression en creux (fr. 36). e) Cachets plats en forme de lentilles (Figs. 296 et 297)." Legrain notes later in his paper that bullae of the last type were found at Telloh also (now in the Museum of Constantinople). They belong to the time of Bur-Sin and bear the seal-impressions of two scribes and an inscription which says that the bulla was used for sealing a bag. A similar bulla now at Brussels was also, according to the inscription, used for sealing a bag. Cf. *id.*, "The culture of the Babylonians," etc., *Publ. of the Babylonian Section of the Univ. of Pennsylvania Museum*, XIV (1925),

It must, however, be noticed that the pre-Hellenistic oriental bullae which have been published or which I have seen in the museums are not identical with the Hellenistic bullae of Orchoi. They do not have the same tube of ovoidal section, or impressions of strings in the tube and remains of them in the mass of the clay, or the same distribution of seal-impressions all around the bulla. Furthermore in not one of the museums have I seen any monuments identical with the clay medallions with seal-impressions of Warka. Similar clay seals abound, but not one may be called identical.

Thus we must conclude that though the clay bullae and the clay impressions of Warka are certainly derived from the same tradition which had produced the pre-Hellenistic bullae of the Near East they form a class of their own and must be explained by a close study of their peculiar form and of the character of the seals impressed on them.

Nor will we be able to find monuments identical with the clay bullae of Orchoi in the world of the Greek and Italian city states and that of the Hellenistic monarchies. It is easier to find analogies to the single clay medallions of Orchoi. These last are akin to a well-known sort of Greek clay seals closely connected with the history of Greek business documents and archives.

The habit of sealing documents and letters by means of clay seals was common all over the Greek world. Hundreds of clay seals originally affixed to documents written on papyrus or parchment were found, e.g., at Selinus: they belong to the period before

8 f. Bullae which were used in the Sumerian Archives (found at Telloh, now in the Louvre) have been published and dealt with by Col. Allotte de la Fuye, *Rev. d'Assyr.*, VI (1907), cf. *ibid.*, XVII (1920) and *idem*, *Documents Présargoniques*, I, 1 (1908), Pls. V–XI. Cf. L. Delaporte, *Catalogue des cylindres orientaux*, Vol. I (1920), Pls. 7–12 (Telloh); Pls. 44, 4 (p. 350); and 38–47 (Susa); Vol. II, Pls. 112–118; Pl. 120, 2; 122, 1a–1b; 123, 8. Curious little Hittite bullae of conical form from the collection of the late M. Schlumberger (now in the Cabinet des Médailles) have been published and discussed by E. Pottier, *Rev. arch.*, 1882, p. 332 and Pl. XXIV. They remind one of the little truncated pyramids which were used for a very long period (from the Presargonic time to the Persian period) for identifying cattle. The bullae hung probably from the necks of the royal and sacred sheep, goats, cows, etc. They bear the impression of a seal and the name of a herdsman and sometimes of a dog. See the works of Col. Allotte de la Fuye quoted above and L. Delaporte, *Catalogue des cylindres etc. de la Bibl. Nat.*, Atlas, Pl. B, 4890 a–b; 891 a–b. I have seen many bullae of this type and of the Persian period in the collection of Allotte de la Fuye.

the second destruction of the city in 249 B.C. The evidence for the habit of sealing writings and other things in Attica has been collected by Professor R. J. Bonner. However, the lack of actual sealed letters and documents from the city-state period of Greece leaves many questions on the modes and purpose of sealing the documents in Greek city-states open.<sup>5</sup>

<sup>5</sup> On the impressions of Selinus, see Salinas, *Not. degli Scavi*, 1883, pp. 288 ff., Pls. 6-15; Furtwängler, *Antike Gemmen*, III, 130, cf. O. Rubensohn, *Elephantine Papyri* (1907), pp. 9 ff. Scattered impressions have been often found in other Greek cities; e.g., Priene, Th. Wiegand und H. Schrader, *Priene*, p. 465, No. 235 (R. Zahn); Myndus in Caria under the floor of a Roman house excavated by W. R. Paton, H. B. Walters, *Catalogue of the Terracottas in . . . the British Museum*, 1903, pp. 443 ff., E96, E97, E114 (Hellenistic period); Tarentum, *id. ibid.*, E106-110, cf. *Journ. of Hellen. St.*, VII (1886), 401; Mytilene, *ibid.*, E98; Larissa in Thessaly, *ibid.*, E116; the temple of Baalbek, *ibid.*, E99-103 and E117-120. A careful search in our Museums of Antiquities will certainly yield a rich and interesting harvest. On Attica, see Robert J. Bonner, "The Use and Effect of Attic Seals," *Class. Phil.*, III (1908), 399 ff. I leave aside the information which we possess as regards Italy and the Roman world since it is with objects of Hellenistic times and of Eastern regions that I am dealing.

[In speaking of finds similar in character to that of the bullae in the Hellenistic temple of Uruk I have missed mentioning one recently made at Cyrene (where, by the way, I am writing this additional note).]

One of the excavated parts of the city of Cyrene is the agora which covers a large area on both sides of one of the main streets of the city. To the north of this street (which runs from the agora through the citadel to the sacred precinct of Apollo) a large square, surrounded by colonnades and by various temples and occupied to a large extent by majestic altars, forms the agora proper. To the south of the street stands the temple of Zeus Aigiochos, the capitol of the city, built in its present form in 138 A.D. Close to it, and to the west, are two public buildings, one behind the other; one probably the prytaneion, another certainly the nomophylakeion—this last a long narrow room adorned with pilasters which bore originally inscriptions on their fronts and votive statues on their tops. Some of the inscriptions of these pilasters (five) are still extant; they say all of them that a collegium of the nomophylakes of a given year (six nomophylakes and three secretaries) has dedicated a statue of a god or a goddess in memory of their year of service. The inscriptions are dated in the late Hellenistic period and in the time of the early Roman Empire (one bears the date of 17/16 B.C.). Some niches in the walls of the room (which originally may have been windows) served probably to hold (in special wooden cupboards) the various documents which formed the archives of the nomophylakes. At some time in the 1st century after Christ, as shown by the dates of the

Ample and excellent information on sealing documents and letters is derived from the Greek and Demotic, Latin and Arabic documents of Ptolemaic, Roman, and Arabic Egypt, both from the extant documents on papyrus and from extant clay impressions. Most important are the documents which still preserve their clay seals. Quite a few of them were found in Egypt and are now kept in various museums and libraries. To the early Hellenistic period belong the documents of Elephantine and some of the documents of the Zeno archives.<sup>6</sup> Moreover, about three

inscriptions mentioned above, the building perished by fire and apparently was never restored. A thick stratum of ashes and charcoal found in the building proves it. In this stratum of ashes and charcoal were found numerous little clay pyramids which the excavator of the place, E. Ghislanzoni, then field director at Cyrene ("I νομοφύλακες di Cirene," *Rendic. d. R. Acc. dei Lincei*, Ser. VI, I (1925), 428 ff.) describes as follows: (I quote his own words, since I am afraid that in translating them I might misinterpret them.)

"In questo strato si sono rinvenute numerosissime *cretulae* cioè piramidette di terracotta, sulle cui facce sono una o più (fino a cinque) impronte di sigilli, simili a quelle scoperte nel tempio a Selinunte . . . e a quelle trovate in minor numero a Cartagine e pubblicate dal Delattre. Le *cretulae* di Selinunte sono 'strisce per dir così, più o meno lunghe, di creta sulle quali sono improntate, quasi sempre in fila, una o più incisioni'; quelle di Cirene invece hanno quasi tutte forma di piramidi sulle cui facce sono impronte di sigilli o, per essere più esatti, di gemme incise; ma anche queste di Cirene, come quelle di Selinunte, hanno presso il piano di base un piccolo foro passante a sezione rettangolare nel quale erano infilati e fissati i due capi della cordicella che legava queste piramidette al documento al quale servivano come suggello."

There are about 4,000 of these little pyramids, only a few hundred of which, however, are in good state of preservation. None of them has been published. Ghislanzoni has suggested no date for them. I have not studied them (they are now in Rome). According to Professor Oliverio, who has seen them, they all belong to the Hellenistic period.

It is evident how closely the find of Cyrene is related to that of Urak. It is more than probable that the archives of the nomophylakes of Cyrene contained not only laws and decrees but also other documents of public and perhaps private character, like the archives of the chreophylakes of Urak.]

<sup>6</sup> O. Rubensohn, *Elephantine Papyri* (1907), especially Pls. I and II pp. 5 ff., cf. Wenger, art. "Signum" in Pauly-Wissowa-Kroll, *R.-E.*, Zw. R., II, 2409 ff. I owe to the kindness of Dr. H. I. Bell the following statement as regards the Zeno papyri. "The Zeno Papyri did not come direct from the find; many of them had been damped and flattened already, so that the absence of a seal does not prove that no seal was there originally. My own impression is that double deeds—that was the nor-

hundred clay impressions of seals—both private and official (see below)—were found either at Edfu or at Philae in a clay jar.<sup>7</sup> On the papyri of Elephantine we have not only single clay impressions of seals but larger lumps of clay with many seal-impressions on them. These last were used for sealing documents of the so-called first find of Elephantine.<sup>8</sup>

I cannot deal at length with the conditions which prevailed in Ptolemaic Egypt as regards the sealing of documents. Suffice it to say that clay was used chiefly in the case of the so-called "double" documents; i.e., documents of which the text was written twice on the same sheet of papyrus. One half of the sheet with the

mal type in the 3-d cent. B.C.—were *always* sealed. There are certainly a fair number still preserved among the Zeno papyri in one place or another, but they are not all contract-seals; some of the best were on letters. We have several here. . . . There are one or two very good ones on Zeno papyri of the Michigan Collection . . . also on some of the Columbia Zeno texts. Later Ptolemaic seals here are those on P. Lond. 1200 and 1204 (vol. III)."

<sup>7</sup> J. G. Milne, "Ptolemaic Seal-impressions," *Journ. of Hellen. St.*, XXXVI (1916), 87 ff. The impressions are in the Royal Ontario Museum at Toronto. Those with hieroglyphic inscriptions and of purely Egyptian style have been published by Miss M. A. Murray, *Zeitschr. f. Aeg. Spr.*, XLIV (1907), 62 ff. A signet with the portrait of King Ptolemy IV Philopator which no doubt was used by a royal officer and by means of which impressions like those published by Milne were produced was published by W. M. Flinders Petrie, "Some Royal Signets," *Essays and Studies presented to William Ridgeway* (1913), p. 192, No. 4 (I owe this reference to the kindness of Professor P. Wolters). Some other clay seal-impressions, this time of the Roman period, were found in the Fayum and at Thmuis. Most of them, however, were not used for sealing documents; see J. G. Milne, *Journ. of Hellen. St.*, XXVI (1906), 32 ff., and C. C. Edgar, "Notes from the Delta," *Ann. du Serv.*, VIII (1907), 157 ff. Cf. H. B. Walters, *Cat. of the Terracottas in . . . the British Museum* (1903), pp. 443 ff., E93-95 (cf. the following note).

<sup>8</sup> Some of the lumps of clay found at Selinus show more than one impression of seals, Salinas, *loc. cit.*, Pl. VII, Nos. 125 and 130; Daremberg et Saglio, *Dict. d. Ant.*, IV, 1327, Fig. 6440. One of those impressions is larger than the rest and was produced probably by the official seal of the city of Selinus or that of the priests of the temple. Groups of seal-impressions are commonly found on the envelopes which covered the stoppers of jars. Many of them were found in Babylonia and Assyria (see the book of Legrain quoted in note 4), some in Boghaz-Keui, E. Chantre, *Mission en Cappadoce* (1898), p. 29, Fig. 20, and p. 158, Fig. 127, and some others in Egypt (for the Hellenistic period, H. B. Walters, *Cat. of Terracottas*, etc., p. 443, E93-95).

upper version of the document, after being collated with the copy, was folded over or rolled up, bound by means of narrow strips of papyrus, and sealed or closed by means of lumps of clay on which seals of the contracting parties and of the witnesses were impressed. This text we call according to the Latin terminology "scriptura interior." The other text—"scriptura exterior"—was left open, although it too was rolled up or folded over. Later in the Ptolemaic times the "scriptura interior" was reduced to a short abstract of the "scriptura exterior." The sealing, however, was done in the same fashion. The clay seals used for sealing the double documents show generally the device of the owner of the seal, very rarely his name. The name was written separately near the seal either by the owner of the seal or by the scribe.

Alongside the use of seals for closing documents, they were also employed in signing them. These seals too are accompanied by signatures of the owners of the seals. While the sealed double documents are common, the documents sealed and signed but not closed are rare.<sup>9</sup>

The use of sealed double documents was not confined to Egypt alone. It is common to the whole of the Hellenistic world. Whether it was first invented in the Orient or in Greece is controversial and does not concern us here. It is worthy of note, however, that sealed double documents were regular in the most remote parts of the Seleucid Empire. Such are the parchments of Avroman published by E. H. Minns. Let me quote his description of them.<sup>10</sup>

<sup>9</sup> On seals and sealing of documents in general and in Ptolemaic Egypt in particular, see the article "Signum ( $\Sigmaημεῖον$ )," Daremburg et Saglio, *Dict. d. Ant.*, IV, 1325 ff., by V. Chapot; "Sigillum," *ibid.*, pp. 1307 ff., by A. Blanchet and E. Pottier; "Tabella," *ibid.*, V, 1 ff., by G. Lafaye. The best and fullest treatment of the subject belongs to L. Wenger, art. "Signum" in Pauly-Wissowa-Kroll, *R.-E.*, Zw. R., II, 2361 ff.; *id.*, "Ueber Stempel und Siegel," *Zeitschr. d. Sav. St. f. Rechtsgesch.*, XLII (1921), 611 ff. (Lenelfestgabe). Cf. W. Otto, *Arch. f. Pap.*, VI (1920), 311 ff.; U. Wilcken, *UPZ*, I, 167 f. The manner in which seal-impressions were used not for sealing up a document (letter or "scriptura interior") but for certifying one (as with tax and custom-receipts) is described in a private letter which Dr. H. I. Bell had the kindness to write me (Sept. 15, 1927): "(The seal) was laid on a piece of the margin, usually the lower margin, and generally a strip of papyrus put through the sheet; sometimes even the lower margin was folded over, tied down and then sealed."

<sup>10</sup> Ellis H. Minns, *Journ. of Hellen. St.*, XXXV (1915), 22 ff.

Documents I and II are each in duplicate. The top or A version was in each case rolled up tightly and bound round and round with string passed through the holes in the blank space between the two versions. These holes can be clearly seen on the facsimile of II. A; on the facsimile of I only two or three show as the mice have eaten so much away just along this line. The seals of the parties and witnesses were affixed in token that the "close" version A (if I may so call it) agreed with the "patent" or B version. The latter remained always accessible, but in case of doubt the string could be cut in the presence of proper authority and the "close" version opened to prove or disprove any suspected tampering with the "patent" version.

I may add that the Dura parchments found by Cumont and by the Yale expedition show no traces of ever having been sealed. Conclusive is the complete parchment recently published by myself and C. B. Welles. The document was folded but never sealed. No holes for string are to be found in the parchment. The fact may be explained in different ways. We may suppose that the document was a copy, not the sealed original, the original being kept in the record office. Or we may suggest that in the Roman period to which the parchment belongs the use of double documents was dropped altogether in Syria.<sup>11</sup>

The single clay seals of Orchoi are no doubt to be explained in the light of the evidence produced above. They show all the features which characterize clay seals affixed or appended to documents. In describing them later in this paper I will show that all of them have string holes in the core and that in most of these holes there are still remains of decayed strings. Furthermore, some of the seals show on the back impressions of a texture which seemed to Professor P. V. C. Baur, who has examined the seals closely for me in Berlin, very like the fiber of papyrus. The clay seals with strings and marks on the back were therefore affixed to papyrus documents.

It is more difficult to explain the clay seals with string holes but with no marks on the back. According to Professor Baur, who has examined them closely, the back shows a rough surface of a lentoid shape. The only suggestion I can make, in agreement with the opinion of Professor Baur, is that the seals were not affixed but appended to documents, as were the medieval bullae and

<sup>11</sup> M. Rostovtzeff and C. Bradford Welles, "A Parchment Contract of Loan from Dura-Europus on the Euphrates," *Yale Class. St.*, II (1931), pp. 3 ff.; cf. *C. r. de l'Acad. d. Inscr.*, 1930, pp. 158 ff., and *Dura Expedition*, Report II, pp. 201 ff.

some of the lead bullae of Roman times which hung down from the ends of a cord which secured a bag, bundle, or box with various goods inside. I do not conceal that if I am right it will be the first time that such appended seals have disclosed themselves in the ancient world. No other explanation, however, can be given of the clay seals of Orchoi with string holes and a rough surface on the back.

It is worthy of note that the single clay seals bear no impressions except those of official signets. Since these seals, as we shall see presently, were seals of "keepers of documents," there is no doubt that the clay seals of Orchoi were appended to or affixed on documents written on parchment or papyrus.

What about the clay "bullae" of Orchoi? "Bullae" with seal-impressions have been found elsewhere than in the ruins of Uruk. The habit of using such bullae was probably widely spread in the Hellenistic time all over Babylonia. The University of Pennsylvania Babylonian Expedition has found some at Nippur.<sup>12</sup> Quite recently the Michigan Expedition which is excavating at Seleucia on the Tigris has found a large number of bullae, among them eighty with inscriptions. These I shall discuss later in this paper.<sup>13</sup> It is, however, worthy of note that not one bulla has been found at Dura.<sup>14</sup> That may be due to the fact that the excavations, both those of Cumont and those of Yale University, have not yet found any place with ruins of Hellenistic buildings which were not rebuilt in the Parthian and the Roman period.

The right explanation of the use of the bullae is suggested by

<sup>12</sup> L. Legrain, "The Culture of the Babylonians from their Seals in the Collections of the Museum, Univ. of Pennsylvania," *The Univ. Museum, Publ. of the Babylonian Section*, XIV (1925). Three "bullae" each with many impressions of private seals: I (Nos. 1002-1005) bears four impressions of which two are Greek (Nike and perhaps Apollo on the omphalos); II (Nos. 1006-1010) bears five impressions of private seals, of which one is Greek; III (Nos. 1011-1012), two impressions (one shows a Greek head, probably Athene). Cf. Nos. 1015-1020—a small bulla.

<sup>13</sup> A description of all the inscribed bullae found at Seleucia will be found in the article of R. H. McDowell, "'Bullae' stamped with Greek Legends," in the *Preliminary Report upon the Excavations at Tel Umar conducted by the University of Michigan and the Toledo Museum of Art*, edited by Leroy Waterman, 1931. [See below, Excursus III.]

<sup>14</sup> It must be noted, however, that no clay medallions with seal-impressions were found at Dura and that no one of the parchments and papyri found at Dura shows any traces of ever having been sealed.

many considerations. I have noted above that seal-impressions on the bullae are in many cases identical with seal-impressions on the cuneiform tablets found in the same place and belonging to the same time (Pl. I, 2). This fact, to which I shall return later in this paper, suggests the idea that the bullae were in one way or another equivalent to the cuneiform tablets. Furthermore, as I have mentioned before and will show later in commenting upon the bullae and clay seals of Orchoi, both the bullae and the seals were stamped in many cases with the same stamps or signets or seals. Since it is very probable that the single clay seals were appended to or affixed on documents written on parchment or papyrus, a similar use must perforce suggest itself for the clay bullae. It is considerations of this kind that probably prompted both Jordan and after him Johansen to explain the bullae as clay containers of documents written on parchment or papyrus.

This explanation is made certain by some further considerations and observations. As I have stated above, inside of some of the "bullae" were found in the central "tubes" larger and smaller amounts of carbonized or decayed material. Professor Treat B. Johnson of Yale University, Department of Chemistry, has been kind enough to analyze this for me. In his letter of May 6, 1929, addressed to Professor Dougherty, he writes about it as follows:

The material which you left with me for examination was so badly charred that it is difficult to draw absolutely definite conclusions, but from tests which I have made here, the evidence is in favor of the fact that it is probably a cellulose base. It is too badly charred to permit me to coordinate it with protein material. It fails to give reactions which characterize protein and in every way corresponds in its behavior with a vegetable parchment which has been badly charred by age and heat.

The analysis of Professor Johnson favors therefore the hypothesis that the stuff inside the bullae was papyrus.

Moreover, among the bullae with and without official seals (see below) there are two which show impressions of private seals bearing names in Aramaic. One will be described later in this paper (No. 44 of the Catalogue). The description of the second is as follows (Pl. III, 4):

Small bulla, blackened in some parts by the action of fire.

Ten impressions of almond-shaped seals, all private and all of the Babylonian type. One has, above, a crescent; below, a solar-rosette of eight leaves. Between these two symbols, a word in

Aramaic. The following transcription of the inscription I owe to the kindness of Professor Charles Torrey:

አኅርኩ እኩ

አኅርኩ እኩ

*An(u)-ah(ē)-ittin*

Oriental Institute, Chicago, No. A 3837.

On this name and the name of No. 44 of our Catalogue Professor Torrey comments as follows: "Babylonian names, both common in the Persian and Greek periods. These are the seals of scribes who were regularly employed to write in the Aramaic character on skins or papyrus; see Dougherty, *JAOS*, Vol. 48 (1928), pp. 109–135" [cf. his *Excursus below*, pp. 94 ff.]. There is no doubt that the appearance of names of parchment scribes on the "bullae" suggests a connection between the parchment documents and the clay "bullae." It is interesting to note that in some Babylonian documents of the Hammurabi period there appear in Northern Babylonia among seal-impressions of the witnesses that of the professional scribe who drew up the document (*tu psarrum*), while at Nippur we have in addition impressions of the seal of the official "seal-cutter" (*bur-gul*), who took an active part in the business transaction.<sup>15</sup>

Still more conclusive as regards the question of the use of the bullae is the study of the seal-impressions found on them. They may be divided into two classes, the second with two subdivisions: seals of private persons form the first class; official seals, both inscribed and uninscribed, the second. Some of the official seals are seals of the record-keepers (chreophylakes) of Orchoi, some bear inscriptions which mention various taxes. Let me deal with these three groups separately.

Most of the seals impressed on the bullae are seals of private persons, generally almond-shaped and of small size, with various figures engraved on them. The impressions of these seals ought to

<sup>15</sup> B. Meissner, *Babylonien und Assyrien*, I (1920), 262; M. San Nicolò, *Die Schlussklauseln der altbabylonischen Kauf- und Tauschverträge* (1922), p. 23.

be collected and investigated in full. They are very important for the study of the Graeco-Babylonian art of the Hellenistic period and the religious ideas current in Babylonia at the same time. These impressions of private seals we may divide into three classes according to their style. Some of them show a late Babylonian style without any visible Greek influence, some show a stronger or weaker Greek influence, some others, finally, are Greek without any Babylonian influence.

Let me describe here some of the last kind—beautiful specimens of Hellenistic art. On one bulla of the Collection of the Oriental Institute of Chicago (No. A 3911, diam. 0.031–0.027) a beautiful Greek portrait head of a bearded man r. is impressed twice (Pl. II, 1). The head is apparently a portrait of a private person, not of a king. Four other impressions on the same bulla are indistinct. Another equally beautiful though not so well-preserved Greek portrait head will be found on a bulla of the same collection (No. A 3762, diam. 0.029) impressed twice. The portrait (0.018) shows a clean-shaven man r. (Pl. II, 2). Two more impressions on the same bulla show a head of Apollo r. (diam. 0.016–0.012), perhaps the portrait of a Seleucid king represented as Apollo (see below, description of No. 64, cf. 26). Two more impressions on the same bulla are indistinct. Two fine portraits may be seen on two bullae of Berlin. One (a fragment, 0.032–0.027) No. VA 6063, has been published by J. Jordan, *Uruk-Warka*, p. 65, No. 16, Pl. 87 g. The bust of the impression shows a beardless man r. (Pl. II, 3). Besides this impression there is a fragment of another one. Also beardless is the bust on the bulla No. 64 a (Jordan, *op. cit.*, p. 65, No. 13, Pl. 87 h.), again a striking portrait of an older man (Pl. I, 2). Less interesting are smaller portrait heads on certain bullae; e.g., No. A 4005 (diam. 0.022–0.021) of the Oriental Institute, Chicago (Pl. II, 4b)—head of a beardless man r., above a crescent (three more impressions are seen on the same bulla), and No. A 3982—head of a man r. and of a woman r. (six more impressions on the bulla). I may note in this connection that the bulla No. 3158 of the Yale Babylonian Collection bears an impression of the same seal as the above-mentioned bulla A 4005 of Chicago (Pl. II, 4 a).

Some of the Greek seals impressed on the bullae bear types which are quite common in the contemporary sigillography and reproduce well-known statuary types. Let me cite, for example, a bulla in the Louvre (L. Delaporte, *Catalogue des cylindres, cachets et pierres gravées de style oriental*, Vol. II (1923), No. 808, Pl. 123, 1 a-d). Among eight seal-impressions there are on

this bulla two which show the figure of Athene Promachos, but in different versions: on one the goddess is represented standing r. lifting the spear with her r. hand as if throwing it and protecting her breast by means of a shield (diam. 0.017–0.015); on the other the spear is held much lower, as if the goddess were charging an enemy, the figure is represented in violent movement, the shield is lifted much higher (diam. 0.017) Pl. II, 5 and 6. It is useless to quote parallels; they are well known to all students of classical art. I may, however, mention that the figure of Athene Promachos is not unfamiliar to the Seleucid coins (Athene Alkis). I have seen a similar figure on one of the bullae of the Collection of Colonel Allotte de la Fuye. Another bulla of the same collection shows three impressions produced by Greek gems of rare beauty: one represents the two Dioscuri riding r., above their heads star and crescent (cf. the Dioscuri upon the coins of Seleucus II, Timarchus, and Antiochus VI, later reproduced in India); the second, a man on horseback throwing a javelin or charging an enemy with his spear; the third, a figure of a young man l. leaning on a spear.

Most of the Greek seals which were used in Babylonia are uninscribed. I know of one exception only. On one of the bullae of the Yale Babylonian Collection (No. 3083, diam. 0.023–0.022) one of the five impressions of private seals shows the figure of an eagle flying r. and of a crab, and below a fragmentary and faint Greek inscription which I read tentatively: "*Ὀρλών*" (Pl. III, 3).

Still more interesting are the Babylonian and Graeco-Babylonian impressions. It is astonishing to see what a part astrology played in the life of these Hellenistic Babylonians. A close study of all the combinations of signs of the Zodiac with certain mythological figures, certain religious symbols, and certain figures of priests, which are typical for the Babylonian and Graeco-Babylonian seals, will probably, if taken up by a specialist, throw a vivid light not only on the religion of Babylonia in the Hellenistic period but on the development of astrology at the same time.

Let me produce just two examples. On a bulla of the Oriental Institute of Chicago, No. A 3760 (diam. 0.035–0.032), one impression shows a combination of three signs of the Zodiac: Sagittarius or Toxotes, Aries, and Leo; above is the crescent, below a star (Pl. III, 1). Another bulla of the same collection, No. A 3404 (diam. 0.025), shows a different combination: the crab, the fish, and the eagle (Pl. III, 2); the eagle is probably the symbol of the sun (cf. the impression with the Greek inscription described above, Pl. III, 3).

I may note, in connection with my remarks above, how important the study of the private seal-impressions is for the social, religious, and cultural history of Babylonia in the Hellenistic times. The combination on many bullae of Greek, Babylonian, and Graeco-Babylonian seal-impressions testifies again to the intimate mixture of Greek and native elements in Babylonia which was the result of the policy of some Hellenistic monarchs and which is equally attested by the study of the proper names of this period as they occur on the clay tablets of this time. If we had the documents on parchment and papyrus which were inclosed in the bullae we certainly should have the same mixture of the two legal and juridical systems—the Babylonian and the Greek.

Most important, however, for the understanding of the purpose of the bullae is the fact noted by many scholars who have dealt with the bullae and the cuneiform tablets of the same time found at Warka that some of the private signets impressed on the tablets were identical with those used for the bullae. Since in the case of the tablets the seals are accompanied by signatures and are certainly seals of the witnesses and the contracting parties, the obvious conclusion is that the seals of the bullae were impressed on them by witnesses and parties to business transactions (Pl. I, 2). It has been many times observed that there was a certain class of persons regularly appearing as witnesses to contracts drawn up on clay tablets, a kind of professional witness. The same men appear on the bullae, apparently in the same capacity.<sup>16</sup>

This observation strongly supports the hypothesis that the bullae were a kind of envelope, not unlike those of the so-called case-tablets of earlier times, for the preservation of documents which were written not in cuneiform but in Greek or Aramaic, not on tablets of clay but on parchment or papyrus. A different suggestion which I have heard many times from various scholars who have dealt with the bullae, namely, that they were used for classifying clay tablets in the archives and were put upon pieces of reed, is less satisfactory. It does not take into account the oval section of the tubes and the presence of remains of strings inside the tubes.<sup>17</sup>

<sup>16</sup> A bibliography of the existing publications of the Babylonian clay tablets of Hellenistic times, compiled by me, may be found in *Cambridge Anc. Hist.*, VII, 898; cf. Fr. Heichelheim, *Wirtschaftliche Schwankungen der Zeit von Alexander bis Augustus* (1930), p. 86, n. 3.

<sup>17</sup> It is well known that the use of papyrus and parchment for writing is very old in Babylonia, see Schröder, "lu-kus-sar-amelu kus-

Further and decisive proof of this obvious conclusion is furnished by the following facts.

While most of the bullae bear exclusively impressions of private seals, some present a greater diversity of seal-impressions. Besides impressions of private seals they bear impressions of larger seals of official character which appear also on the single clay seals of Warka. These impressions show types which coincide with the types of Seleucid coins: heads of the kings and various mythological figures and symbols. On most of these impressions the type is accompanied by a Greek inscription, one and the same on almost all the impressions: χρεοφυλακικός—"Ορχων (on one seal instead of "Ορχων we find ἐν "Ορχοις), which means of course χρεοφύλακις (χαρακτήρ) "Ορχων i.e., "the seal of the χρεοφύλαξ of Orchoi."<sup>18</sup> One impression only bears a different inscription: Βιβλιοφυλακικός i.e., χαρακτήρ. The seal was accordingly that of a bybliophylax. It is evident therefore that some of the bullae and almost all the single clay seals were sealed with the official seal of the "keepers of contracts" or "keepers of documents." A third kind of seal-impression is found mostly on bullae which were sealed by the chreophylakes. They bear Greek inscriptions which always give the name of a tax and the date. These seals are of very great importance since they help us to date the various types of the seals of the chreophylakes.

All the facts mentioned above taken together show that the only adequate explanation of the "bullae" is that they were a compromise between the Greek and the Babylonian system of sealing documents.

The Babylonian system is represented by the cuneiform tablets of the Hellenistic period found at Uruk and in other places of Babylonia. No "case-tablets," which are the best parallels to our "bullae," were used at that time. The seals of the contracting parties and of the witnesses were impressed into the wet clay of the tablet itself. Note that no seal-impressions corresponding to

saru," *Zeitschr. f. Assyriol.*, XXX (1915-16), 100 f.; R. Dougherty, *JAOS*, XLVIII (1928), 109 ff. Cf. P. Koschaker, *Orient. Literaturz.* (1930), pp. 169 f. It is surprising that among the various clay lumps or medallions with impressions of seals found in Babylonia and Assyria there is none which can be interpreted as a seal affixed to a document written on parchment or papyrus.

<sup>18</sup> On χαρακτήρ, χαράσσειν and χάραγμα Preisigke, *Fachwörter*, s.v. χάραγμα, and *Wörterbuch*, s.vv. χαρακτήρ and χαράσσω; Wenger, Pauly-Wissowa-Kroll, *R.-E.*, Zw. R., II, 2363, 2374, 2401. On σφραγίς, σημεῖον, χαρακτήρ, Preisigke, *Arch. f. Stenogr.*, LVI (1905), 305 ff.

those of the *χρεοφύλακες* have been observed on the tablets with cuneiform writing, even on those belonging to the same period. Is it an accident, or had the *χρεοφύλακες* nothing to do with contracts written in Babylonian?

The Greek system on the other hand may be found in the parchments of Avroman. I have described it already. It consisted of sealing a document written on parchment or papyrus by means of single clay lumps on which seals of the parties and of the witnesses were impressed. The seal-impressions of this kind found at Warka all bear the impressions of the seals of the *χρεοφύλακες* and βυβλιοφύλακες, none the impressions of private seals.

The system of the "bullae" was a compromise between the two systems. A document on papyrus or parchment, larger or smaller, was folded over (or rolled up) and bound with a woolen string. Around this string wet clay was pressed in order to let the string penetrate into the clay. The amount of clay used for the purpose depended on the volume of the document and the number of witnesses. On the lump of clay which surrounded the document and which may be compared with a wrapper such as is used for mailing newspapers, or with a napkin ring, seals were impressed by witnesses, and perhaps by the contracting parties also. Within its clay ring, the document was deposited in the official or temple archives. The names of the witnesses (with the description of the corresponding seals?) were found in the text of the document, probably at the bottom of it as in the Avroman and Dura parchments. A description of the contents of the document may have been written on an attached label or on one of the protruding ends of the parchment or papyrus. The meaning of the seal of the *χρεοφύλαξ* and of the tax seals will be discussed later.

As I have pointed out above, many clay bullae have been published and discussed by competent scholars. However, each one of these publications dealt with a limited number of them, those of a certain collection only. None of the scholars who have dealt with the bullae has attempted to treat the subject as a whole and to classify all those hitherto found. This explains why the bullae have been generally neglected in the discussions of sealing cited in note 9. As a student of Hellenistic history I became interested in them long ago. I realize painfully enough how scanty is our information on the Hellenistic period in general and on the organization of the Seleucid Empire in particular. Any set, therefore, of authentic and dated monuments, however insignificant those monuments may appear at first glance, has been welcome to me. So I began to collect the bullae, and observed at once that the

official seal-impressions with Greek inscriptions were in most cases inadequately published and that the Greek inscriptions had been to a large extent misread or not read at all. The only exception is the recent paper of K. Friis Johansen which, however, was printed when my *corpus* of the bullae was almost ready.

The more I studied the bullae, the more I saw that they contribute a good deal to our knowledge of the Seleucid Empire. They give us a glimpse into the Seleucid archives of Babylonia, they furnish us with a set of official seals well dated, which corresponds to another official set of objects—the coins; they contribute certain details on the taxation of the Seleucids, and, finally, as I have indicated, they form a well-dated and in the main well-preserved set of documents interesting both for the history of art and for the social and economic history of the period.

My first intention was to make a full publication of the bullae; i.e., to describe all the seal-impressions, both private and official. When I became acquainted with the Chicago and the Berlin Collections I gave up this idea. Such a publication would require months and months of work. I am too old and too busy with many other things to undertake such a “magni sudoris opus.” To younger scholars I recommend the subject heartily. The purpose of this paper is more modest: to collect and classify all the impressions of official seals with and without inscriptions which are known to me. The reader will see that the list of such impressions is a long one. And yet I am not at all sure that I have collected all the material. No doubt there are other bullae and single clay impressions in the public and private collections of Europe and of the United States. However, incomplete as it is, my publication will be of some use. It will give a large number of monuments in chronological sequence, it will reproduce all the inscriptions, and it will attempt explaining them as far as that is possible at the present moment. Such a publication will, I am sure, facilitate the task of those who have occasion to publish documents of the same type, especially of those who are now excavating Warka and other Babylonian cities which still existed in Hellenistic times.

## II

### CATALOGUE OF IMPRESSIONS OF OFFICIAL SEALS

#### A

##### *Bullae*

###### I. IMPRESSIONS SHOWING PORTRAIT HEADS OF KINGS AND QUEENS

###### 1. Bulla (0.041–0.036).

Pl. IV, 1.

1. Impression of an oval seal (0.0235–0.021). Head of a Seleucid king with long hair falling down the neck and a laurel crown r. The king is represented as Apollo, or Apollo was represented with the features of the king. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ To the l. from above: EN OPXOΙΣ

2. Impressions of seven private seals.

Ashmolean, Oxford.

G. R. Driver, *JHS*, XLIII (1923), pp. 55 f.

χρεοφυλακιός—έν "Ορχοις.

Seleucid coinage makes frequent usage of the portrait of the reigning king with attributes of Apollo, or of the head of Apollo with features of the reigning king. In dealing with the coins of Seleucus III and Antiochus III the editors of the Seleucid coins speak of a striking similarity between the Apollo of the coins of these kings and the kings themselves (*BMC*, p. 22, Nos. 6–7, Pl. VII, 8 and 9, and Introd., p. xxii [Seleucus III]; p. 28, Nos. 49–53, Pl. IX, 9–10, cf. Nos. 55–58 [Antiochus III]). It is well known that the head of Zeus on the coins of Antiochus IV bears the features of the king (*BMC*, p. 36, No. 22; Babelon, *Rois de Syrie*, No. 544; *Catal. Narville*, X [1925], No. 1048) and that he was the first to put on his coins a radiate crown; i.e., the crown of Helios, on his own head, cf. note to No. 6. It is not easy to say which of the earlier Seleucids is represented on our bulla. Driver, following Forsdyke and Hogarth against P. Gardner, thinks of Seleucus II. I see no similarity between the head of Apollo with the features of the king of the copper of Seleucus II (*BMC*, Pl. VI, 10, 12, 13) and the head of our bulla. I would rather suggest with some hesitation Seleucus III (*BMC*, Pl. VI, 8 and especially 9; Babelon, *Rois de Syrie*, Pl. VIII, 13, 14). Yet I would not eliminate Antiochus III, either. Cf. our Pl. IV, 3.

###### 2. Bulla (0.043–0.034).

1. Impression of an oval seal (0.023–0.021). Head of a Seleucid king as above. To the r. from above: . . . ΦΥΛΑΚΙΚΟΣ To the l. from above: EN OPXOΙΣ

2. Impressions of eleven private seals, very indistinct.

Louvre, Paris.

L. Delaporte, *Catalogue des cylindres, cachets et pierres gravées de style oriental etc.*, II (1923), No. 807, Pl. 122, 7.  
 χρεο] φυλακικός—ἐν Ὀρχοίς.

3. Bulla (0.044–0.042); traces of combustion. Pl. IV, 2.

1. Impression of an oval seal (0.023–0.020). Head of a Seleucid king as above. Inscription to the r. of the head missing; to the l. from above: EN OPXOΙΣ

2. Two impressions of another large oval seal (0.021–0.019). Sacred column? No inscriptions.

3. Impressions of twelve private seals; one seal impressed twice (winged griffin running r.).

Morgan Library Collection, New York (kept in Yale Babylonian Collection).

A. Clay, *Babylonian Records in the Library of J. Pierpont Morgan*, Part IV (1923), p. 54, No. 57, Pl. VI.

[χρεοφυλακικός]—ἐν Ὀρχοίς.

4. Bulla (0.036–0.034).

Pl. IV, 4.

1. Impression of an oval seal (0.024–0.021) repeated twice, damaged to the r. and below. Head of a Seleucid king r. wearing a laurel crown and long hair; i.e., represented as Apollo. No traces of inscriptions.

2. Impressions of nine private seals. Some are Greek: (1) figure probably female moving l. with head in full face and outstretched arms (Daphne?) and (2) Apollo (?) moving r. with a bow in his l. hand. Note also the interesting impression of a Babylonian seal showing a priest r. with a bundle of plants in his r. and a basket in his l.

Louvre, Paris.

L. Delaporte, *Catalogue des cylindres, cachets et pierres gravées de style oriental etc.*, II (1923), No. 805, Pl. 122, 5a–d.

The head shows a striking similarity to some portraits of Antiochus III on his coins (s. Pl. IV, 5).

5. Bulla (0.037–0.031).

Pl. IV, 6.

1. Impression of an oval seal (0.023–0.021), badly damaged. Head of Apollo with the features of one of the Seleucid kings (?) with a laurel crown r. To the l. perhaps traces of letters (?).

2. Fragmentary impression of a head of Apollo with the features of one of the Seleucid kings wearing a laurel crown (perhaps the same as No. 1).

3. Five badly damaged impressions of private seals.

Yale Babylonian Collection, No. 3081.

The laureate head of Apollo with or without features of the reigning king is one of the most common types of the Seleucid coinage of all times. I am inclined to recognize in the poor remains of the seal-impression of our bulla the style of the Apollo-king head of the time of Antiochus III (Pl. IV, 5).

## 6. Bulla (0.035–0.035).

1. Impression of an oval seal (0.027–0.023). Bust of King Antiochus IV r. wearing a radiate crown. To the r. from above: ΧΡΕΟΦΥΛΑΚΙ . . . To the l. from above: traces of OPXΩΝ

2. Seven impressions of private seals.

Musée du Cinquantenaire, Brussels.

L. Speleers, *Catalogue des intailles et empreintes orientales des Musées Royaux du Cinquantenaire* (1917), p. 238, No. 207.

χρεοφυλακι[κός]—["Ορχων].

The portrait which appears on the main impression of this bulla and similar portraits on the following bullae, Nos. 7–10, are almost identical with the portraits of Antiochus IV as they appear on some of his coins, those where he is represented wearing a radiate crown; i.e., as Helios or Apollo, cf. note to No. 1 and *BMC*, Pl. XII, 1–3, 5, 6, 13–16; Babelon, *Rois de Syrie*, Pl. XIV and Pl. XV, 1–4 and 7; *Cat. Naville*, X (1925), Nos. 1034, 1035, 1039, 1040 (our Pl. V, 3). A radiate portrait of the king appears again on the coins of Antiochus VI but the features of this portrait show no similarity to the features of the king of our bullae. Cf. the clay seals No. 67 (Pl. V, 2).

## 7. Fragment of a bulla.

1. Impression of an oval seal (0.030–0.023). Bust of King Antiochus IV as above. To the r. from above: ΧΕΟΦΥΛΑΚΙΚΟ . To the l. from above: OPXΩΝ

No impressions of private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6109.

χ[ρ]εοφυλακικό[ς]—["Ορχων].

## 8. Fragment of a bulla. Black.

Pl. V, 1.

1. Impression of an oval seal (0.030–0.022). Bust of King Antiochus IV as above. To the r. from above: XPEO . . ΛΑ . . . . To the l. from above: OPXΩΝ

No impressions of private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6098.

χρεο[φυ]λακι[κός]—["Ορχων].

## 9. Bulla (0.042–0.0315).

1. Impression of a part of an oval seal (0.030–0.022). Bust of King Antiochus IV r. wearing the radiate crown. No traces of inscriptions.

2. Impressions of eight private seals, all from different seals: (1) a face (mask?) in front view; (2) draped female figure r.; (3) bearded head r.; (4) female figure holding caduceus (?). The other four indistinct.

Kaiser Friedrich Museum, Berlin, No. VA 6038.

## 10. Fragment of a bulla.

1. Impression of an oval seal (0.025–0.022). Bust of King Antiochus IV as above. No traces of letters.

No impressions of private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6099.

## 11. Fragment of a bulla.

1. Impression of an almost circular seal with the portrait head of a young man, probably Demetrius II, r.

2. Impression of one private seal.

Collection of Col. Allotte de la Fuye at Versailles.

The identification of the head with Demetrius II was suggested by the owner of the bulla. However, in a handwritten catalogue of his bullae of which I have a copy kindly sent to me by Col. Allotte he speaks of the portrait as being that of Seleucus II or Seleucus III. Unfortunately Col. Allotte was not able to send me a cast of the impression or a photograph of it. When I saw the impression I found the head very like Demetrius II and similar to the head of our No. 12. I express the hope that Col. Allotte will soon publish the interesting fragment of the bulla with the portrait described above.

## 12. Fragment of a bulla (0.030–0.025). Pl. VI, 5.

1. Impression of an almost circular seal. Portrait head of a young man wearing a laurel crown r.; Demetrius II as Apollo (?).

2. Impressions of three private seals (two fragmentary).

Kaiser Friedrich Museum, Berlin, No. VA 6106 (Warka 64bw).

J. Jordan, *Uruk-Warka*, p. 65, No. 14, Pl. 87 e.

## 13. Bulla (0.021–0.019). Pl. VI, 6.

1. Impression of a small oval seal (0.012–0.009). Head of a young man (king?) wearing a laurel crown r.

2. Impressions of two private seals.

Yale Babylonian Collection, No. 3084.

The head is similar to the head of our No. 12.

## 14. Fragment of a bulla (0.035–0.034). Pl. VI, 7.

1. Impression of an oval seal. Head or bust of a king r. (0.027 high). To the l. from below: . . . . ΩN Right side missing.

2. Impressions of three private seals. One shows a portrait head, another the monogram Ἀ.

Kaiser Friedrich Museum, Berlin, No. VA 6042.

The monogram occurs frequently on Seleucid coins, see *Catalogue de vente Naville*, No. X (1925), pl. of mon., No. 7. The inscription might be restored as [χρεοφυλακικός]—[“Ορχ]ων, although I recognize to the l. of the head, below, traces which are similar to the letters Ε and Ξ. Is it: έξ [“Ορχ]ων? Note that here for the first time on the seal-impressions of the bullae the inscription starts from below and not from above.

## 15. Fragment of a bulla (0.025–0.024). Pl. VI, 9.

1. Impression of an oval seal (0.015–0.012). Draped bust of a woman (queen?) with her hair curiously dressed.

2. Impressions of two private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6111.

## II. IMPRESSIONS SHOWING FIGURES OF GODS AND HEROES

### A. HEROIZED KING

16. Bulla (0.041–0.040).

Pl. IX, 4 and 5.

1. Impression of an oval seal (0.022–0.017) damaged l. below. Naked male figure standing l. with the r. leaning on a spear, from the l. hangs a chlamys. To the r. from above: XP . ΟΦΥΛΑΚ . . . . To the l. from above: OPXΩ .

2. Impression of an oval seal with straight short sides (0.020–0.014). Inscription in three lines: ΕΠΩΝΙΟΥ | B ♀ | OPXHNOY

3. Similar oval seal (0.018–0.014). Inscription in three lines: AN-ΔΡΑΠΟΔΙΙ . . | ♀ | OPXHNOY

4. Impressions of nine private seals, all with Babylonian types.  
Morgan Library Collection, No. 2635.

A. Clay, *Babylonian Records in the Library of J. Pierpont Morgan*, Vol. IV (1923), p. 54, No. 55, Pl. VI.

1. χρ[ε]οφυλακ[ικός]—"Ορχω[v].

2. Ἐπωνίου—β ♀—"Ορχηνοῦ.

3. Ἀνδραποδί[κης]—β ♀—"Ορχηνοῦ.

Date: 92 Sel.—220 B.C. Time of Antiochus III. The naked figure represents no doubt the king; i.e., a statue of his, cf. the bronze statue of a Hellenistic ruler in the Museo delle Terme. No similar figure occurs on Seleucid coins. The sign after the date is of common occurrence in the tax inscriptions of Orchoi. It is as Johansen has recognized—a half anchor, one of the symbols of Seleucid power; see note to No. 58. The name of the tax mentioned in inscription 3 appears on no Orchenian bulla in complete form. Since, however, the bullae of Seleucia give the form ἀνδραποδίκη we must assume the same form for the Orchenian bullae; see McDowell, *Preliminary Report upon the Excavations at Tel Umar*, p. 30, Nos. 13–15. [Cf. below, Excursus III, p. 105.]

17. Bulla (0.039–0.036).

Pl. IX, 6.

1. Impression of an oval seal (0.022–0.017). Naked male figure as above. To the r. from above: XPEΟΦΥΛΑ . . . . To the l. from above: OPXΩN

2. Impression of an oval seal with straight short sides (0.023–0.014). Inscription of three lines: ΕΠΩΝΙΟΥ | B ♀ | OPXHNOY

3. Impressions of nine private seals.

National Museum, Copenhagen, Inv. 8622.

K. Friis Johansen, *Acta Archaeologica*, I (1930), p. 45, No. 10, Figs. 16 and 18 m, 19 d.

1. χρεοφυλακ[ικός]—"Ορχων.

2. Ἐπωνίου—β ♀—"Ορχηνοῦ.

Date: 92 Sel.—220 B.C. Time of Antiochus III. Johansen reads A ♀. I recognize, both here and on No. 16, B ♀.

18. Fragment of a bulla (0.052–0.0425).

Pl. VII, 2.

1. Impression of an oval seal (0.022–0.017). Naked male figure as above. To the r. from above: ΧΡΕΟΦΥΛΑΚ . . . . To the l. from above: ΟΡΧΩΝ

2. Impressions of eight private seals: (1) two amphorae, (2) sphinx r., two stars above and thunderbolt below, (3) griffin (?) r., (4) Victory (?) l.

Kaiser Friedrich Museum, Berlin, No. VA 6035.

J. Jordan, *Uruk-Warka*, p. 65, No. 22, Pl. 87k.

χρεοφυλακ[ικός]—”Ορχων.

### B. VICTORY

19. Bulla (0.043–0.033).

Pl. IX, 7.

1. Impression of an oval seal (0.026–0.021). Victory l. as on No. 35. To the r. faint traces of letters; below, in continuation of these letters: ΟΡΧ . . .

2. Impression of an oval seal with straight short sides (0.015–0.010), impressed partly over an impression of a private seal. Inscription of three lines: ΕΠΙΩΝ . . . | ΔΡ . | . ΡΧΩΝ .

3. Impression of an oval seal with straight short sides (0.019–0.010). Inscription of three lines: ΑΝΔΡ . Π . . . . | ΔΡ Τ | . . . ΩΝ

4. Impression of another similar seal. Surface badly damaged.

5. Impression (damaged) of a seal showing the upper part of a portrait head r. (king or queen?) (0.022).

6. Impressions of two private seals.

Oriental Institute, Chicago, No. A 3757.

The reading of the date of the inscriptions 2 and 3 is uncertain. It is equally possible to read Δ (or A) P and Δ (or A) Τ. In the first case the date would be 104 Sel.—208 B.C. or 101 Sel.—211 B.C., in the second, 94 Sel.—218 B.C. or 91 Sel.—221 B.C. I regard Δ more probable. The sign after the date in No. 3 is the Seleucid anchor (see note to No. 58). The two inscriptions mention again the ἐπώνιον and probably the ἀνδραποδική (inscription 3 is very faint and the reading conjectural) of Orchoi.

20. Bulla (0.033–0.027).

Pl. IX, 8.

1. Impression of an oval seal (0.028–0.022), very faint. Probably Victory as below, Nos. 21–41.

2. Impression of an oval (almost quadrangular) seal (0.018–0.012). Inscription of three lines: ΕΠΩΝΙΟ . | Α 1 IP | ΟΡΧΩΝ

3. Similar impression. Inscription of three lines: ΑΝ . ΡΑΠΟ . . . | Α 1 IP | ΟΡ . . .

4. Impressions of four private seals.

National Museum, Copenhagen, Inv. 8623.

K. Friis Johansen, *Acta Archaeologica*, I (1930), p. 46, No. 11, Figs. 17 and 18 i, k, 19 e.

1. 'Επωνίου—αιρ—”Ορχων.

2. 'Αν[δρ]απο[δικής]—αιρ—”Ορ[χων].

Date: 111 Sel.—201 B.C. (time of Antiochus III). The sign after the first numerals of the two dates is the Seleucid half anchor. We have seen the full anchor occupying a similar place on No. 19.

**21. Bulla (0.037–0.031).**

1. Impression of an oval seal (0.028–0.022). Victory l. as on No. 35.
2. Impression of an oval (almost rectangular) seal (0.015–0.008). Inscription of three lines: ΕΠ . . . Ο . | ΑΙ . | ΟΡΧΩΝ .

3. Impression of a similar seal. Inscription of three lines: ΑΝΔΑ . . . . . | ΑΙΡ | . ΡΧΩΝ

4. Impressions of six private seals.

National Museum, Copenhagen, Inv. 8616.

K. Friis Johansen, *Acta Archaeologica*, I (1930), p. 43, No. 4, Figs. 7, 8, and 18 c–d.

1. 'Επ[ωνί]ο[υ]—αι[ρ]—"Ορχων.

2. 'Ανδ[ραποδικῆς]—αιρ—["Ο]ρχων.

Date: 111 Sel.—201 B.C. (time of Antiochus III).

**22. Bulla (0.035–0.034–0.027).**

Pl. IX, 9.

1. Impression of an oval seal (0.027–0.021). Victory l. as on No. 35. No visible traces of inscription to the r.; below: ΟΡΧΩΝ

2. Impression of an oval seal with straight short sides (0.015–0.012). Inscription of three lines: ΕΠΩΝ . . . | . ΙΡ | . . . Ν

3. Impression of a similar seal (0.015–0.012). Inscription of three lines: ΑΝΔΡΑΠΟΔ . . . | Α | ΙΡ | ΟΡΧΩΝ

4. Impressions of six private seals.

Oriental Institute, Chicago, No. A 3895.

1. 'Επων[ιου]—[α]ιρ—["Ορχω]ν.

2. 'Ανδραποδ[ικῆς]—αιρ—"Ορχων.

Date: 111 Sel.—201 B.C. (time of Antiochus III). On the sign after the first numeral of the date of seal No. 2 see note to No. 20. In the inscription of seal No. 3 of our bulla the half anchor is simplified and reduced to a straight line.

**23. Bulla (0.038–0.033).**

Pl. IX, 10.

1. Impression of an oval seal (0.028–0.022). Victory l. as on No. 35.

2. Impression of an oval (almost rectangular) seal (0.016–0.011). Inscription of three lines: ΕΠΩΝΙΟ . | ∇ ΙΡ Τ | ΟΡΧΩΝ

3. Impression of a similar seal (0.016–0.011). Inscription of three lines: ΑΝΔΡΑΠΟ . . . | ∇ ΙΡ Τ | ΟΡΧΩΝ

4. Impressions of five private seals.

National Museum, Copenhagen, Inv. 8614.

K. Friis Johansen, *Acta Archaeologica*, I (1930), p. 43, No. 2, Figs. 4–5, and 18 a–b, 19 a–b.

1. 'Επωνίο[υ]—διρ—"Ορχων.

2. 'Ανδραπο[δικῆς]—διρ—"Ορχων.

Date: 114 Sel.—198 B.C. (time of Antiochus III). I regard the first sign of the date as an inverted δ. The sign, however, might have been

used at Orchoi for ζ. In this case the date would be 117 Sel.—195 B.C. The sign after the date is the Seleucid anchor. Cf. No. 19.

**24. Bulla (0.034–0.028).**

Pl. X, 1.

1. Impression of an oval seal (0.028–0.021). Victory l. as on No. 35. Traces of inscriptions.

2. Impression of an almost rectangular seal (0.016–0.010). Inscription of three lines: ΕΠΩΝΙΟ . | Η IP | ΟΡΧΩ .

3. Impression of a similar seal (0.016–0.010). Inscription of three lines: ΑΝΔΡ . . . . | Η IP | . . ΧΩ .

4. Impressions of two private seals, one showing a head in full face, another a Pegasus.

5. Remains of the impression of a seal with the head of a king (?) r. Oriental Institute, Chicago, No. A 3915.

1. Ἐπωνίο[υ]—διρ—Ορχω[ν].

2. Ἀνδρ[αποδικής]—διρ—["Ορ]χω[ν].

Date: 114 Sel.—198 B.C. (time of Antiochus III). The impressions of our bulla described above are no doubt produced by the same signets as the impressions of No. 23.

**25. Bulla (0.038–0.029).**

Pl. X, 2.

1. Impression of an oval seal (0.028–0.022). Victory l. as on No. 35.

2. Impression of an oval (almost rectangular) seal. Inscription of three lines: ΕΠΩΝΙΟ . | Κ IP ↑ | ΟΡΧΩΝ

3. Impressions of six private seals.

National Museum, Copenhagen, Inv. 8615.

K. Friis Johansen, *Acta Archaeologica*, I (1930), p. 43, No. 3, Figs. 6 and 18 l., 19 c.

Ἐπωνίο[υ]—διρ—Ορχων.

Date: 114 Sel.—198 B.C. (Johansen suggests 119 Sel., which I regard as little probable). (Time of Antiochus III.) On the anchor after the first numeral of the date see note to No. 19.

**26. Bulla (0.045–0.036). Half of the surface badly damaged.**

Pl. X, 3.

1. Impression of an oval seal (0.027–0.021). Victory l. as on No. 35. Faint traces of letters to the r. and below.

2. Impression of an oval seal with straight short sides (0.016–0.008). Remains of inscription of three lines: ΕΠΩΝΙΟΥ | . . . P . . . | . . . N

3. Impression of a similar seal (fragmentary and badly damaged).

4. Impression of an oval seal with the head of a king or Apollo r.

5. Impression of one private seal (0.018–0.015). Pegasus (?) running r.

Oriental Institute, Chicago, No. A 3779.

Ἐπωνίου—. . . —["Ορχω]ν.

It is equally possible to recognize in what I regard to be the letter P of the second line remains of the sign of the anchor.

## 27. Bulla (0.031–0.027).

1. Impression of an oval seal (0.029–0.020). Victory l. as on No. 35. To the r. from above: ΧΡΕΟΦΥΛ . . . . Below, remains of letters.
2. Part-impression of an oval (almost rectangular) seal (0.016–0.014). Faint remains of inscription of three lines: ΕΠΩ . . . | . . . | . . . .
3. Impression of a similar seal (0.017–0.011). Faint remains of an inscription of at least two lines.
4. Remains of impressions of three or four private seals.  
Oriental Institute, Chicago, No. A 3782.  
χρεοφυλ [ακικός]—["Ορχων].

## 28. Bulla (0.040–0.040).

1. Impression of an oval seal (0.027–0.020). Victory l. as on No. 35. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ Below, in continuation of this inscription: ΟΡΧΩΝ

2. Impressions of six private seals, all Babylonian.

Musée du Cinquantenaire, Brussels.

- L. Speleers, *Catalogue des intailles et empreintes orientales des Musées Royaux du Cinquantenaire* (1917), pp. 239 ff., No. 208.  
χρεοφυλακικός—"Ορχων.

## 29. Bulla (0.052–0.047).

1. Impression of an oval seal (0.028–0.022). Victory l. as on No. 35. To the r., fragment of inscription: . . . . . ΚΟΣ Below, in continuation of this inscription: ΟΡΧΩΝ

2. Impressions of nineteen private seals. Note among them a head of a bearded man r.

Yale Babylonian Collection.

[χρεοφυλακι] κός—"Ορχων.

## 30. Bulla (0.041–0.038).

1. Impression of an oval seal (0.028–0.022). Victory l. as on No. 35. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ To the l. from above: ΟΡΧΩΝ

2. Impressions of nine private seals, all Babylonian.

National Museum, Copenhagen, Inv. 8613.

- K. Friis Johansen, *Acta Archaeologica*, I (1930), 42, No. 1, Figs. 1–3.

χρεοφυλακικός—"Ορχων.

## 31. Bulla (0.042–0.041).

1. Impression of an oval seal (0.027–0.021). Victory l. as on No. 35. To the r. from above: ΧΡΕΟΦΥΛ . . . . Below, in continuation of this inscription: ΟΡΧΩΝ

2. Impressions of five private seals; one (capricorn to the r.) is repeated twice. One impression shows a Greek head in full face with rich hair (similar to some portraits of Alexander the Great).

Oriental Institute, Chicago, No. A 3815.

[χρεοφυλακικός]—"Ορχων.

**32. Bulla (0.037–0.032).**

1. Impression of an oval seal (0.028–0.021). Victory l. as on No. 35. To the r. faint remains of letters; below, in continuation of this inscription: ΟΡΧΩΝ

2. Remains of impressions of four (or more) private seals.  
Oriental Institute, Chicago, No. A 3794.

[χρεοφυλακικός]—"Ορχων.

**33. Bulla (0.037–0.034).**

1. Impression of an oval seal (0.026–0.021). Victory l. as on No. 35. Faint traces of the usual inscription.

2. Remains of impressions of about six private seals.  
Oriental Institute, Chicago, No. A 3774.

**34. Bulla (0.034–0.032).**

1. Impression of an oval seal (0.026–0.021). Faint traces of a figure of Victory l. To the r. faint traces of letters; below, in continuation of this inscription: . . ΧΩΝ

2. Remains of impressions of four private seals.  
Oriental Institute, Chicago, No. A 3801.

[χρεοφυλακικός]—"Ορχων.

**35. Fragment of a bulla.**

Pl. VII, 3.

1. Impression of an oval seal (0.027–0.019). Victory standing l., in the r. hand a crown, before her on the ground an eagle l. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ Below, in continuation of the above inscription: ΟΡΧΩΝ

2. Impression of one private seal.

Kaiser Friedrich Museum, Berlin, No. VA 10014.

χρεοφυλακικός—"Ορχων.

I give here the full description of the most common type of the official seals of the chreophylakes of the time of Antiochus III (cf. Nos. 19–34 and 36–41) since it is on this fragment that the figure of Victory otherwise faint is excellently preserved. It is interesting to note that though Victory often appears on the coins of the Seleucids her figure on no one of the coins is identical to that of the bullae. Victory on the coins of the early Seleucids is represented advancing l. holding wreath and palm. An eagle is never associated with the goddess. See e.g. the copper coins of Antiochus III (*BMC*, p. 27, Nos. 42–44, Pl. IX, 6; Babelon, *Rois de Syrie*, Nos. 438–441, Pl. X, 15–18). Cf. our Pl. VII, 1. The figure of the bullae reminds one of the figure of Victory as it appears standing on the hand of Zeus Nikephoros on many of the Seleucid coins. The eagle before the goddess is borrowed from the coins on which the royal bird is represented seated on the ground before the figure of Zeus with the thunderbolt (Antiochus II—*BMC*, p. 15, Nos. 18–22, Pl. V, 7; Babelon, *Rois de Syrie*, No. 218, Pl. VI, 3; *Cat. Naville*, X, No. 903). Cf. the figure of Tyche on the coins of Antiochus IV (our

note to No. 48). The bird of these coins, however, seems to be not an eagle but a crane or a stork.

**36. Fragment of a bulla.**

1. Fragment (lower part) of an impression of an oval seal (0.019–0.02). Lower part of the body of a Victory l. To the r. from above: . . . ΦΥΛΑΚΙΚΟΣ Below, in continuation of this inscription: ΟΡΧΩΝ

2. No impressions of private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6081.

χρεο]φυλακικός—”Ορχων.

**37. Fragment of a bulla.**

1. Fragmentary impression of an oval seal. Victory l. as on No. 35. To the r. faint traces of letters.

Kaiser Friedrich Museum, Berlin, No. 640.

J. Jordan, *Uruk-Warka*, p. 65, No. 28, Pl. 88d.

**38. Fragment of a bulla (0.038–0.036).**

1. Impression of an oval seal (0.025–0.020), surface badly damaged. Victory l. as on No. 35.

2. Impressions of two private seals: (1) head of a woman r.; (2) (fragmentary) two draped figures r.

Kaiser Friedrich Museum, Berlin, No. VA 6067.

**39. Fragment of a bulla.**

1. Impression of an oval seal (0.025–0.022). Faint figure of a Victory l. as on No. 35. To the r. faint traces of letters from above: . . . . . IKΟΣ Below, in continuation of this inscription: ΟΡΧΩΝ

Oriental Institute, Chicago, No. A 4073.

χρεοφυλακ]ικός—”Ορχων.

**40. Fragment of a bulla (0.049).**

1. Fragmentary badly worn impression of an oval seal (0.022). Victory l. as on No. 35.

2. Impressions of five private seals.

Yale Babylonian Collection, No. 3159.

**41. Fragment of a bulla.**

1. Impression of an oval seal, much damaged. Female figure (probably Victory) standing l. No traces of inscriptions.

Oriental Institute, Chicago, No. A 3823.

*C. APOLLO*

**42. Bulla (0.037–0.029).**

Pl. X, 4.

1. Impression of an oval seal (0.029–0.024). Apollo l. as on No. 43.

To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ To the l. from above:  
ΟΡΧΩΝ

2. Impression of an oval (almost rectangular) seal (0.018–0.012). Inscription of three lines: ΕΠ . . . . | ΒΑΡ | ΟΡΧΩ .

3. Impression of a similar seal (0.018–0.012). Inscription of three lines: ΑΝΔΡ . . . . . | ΒΑΡ | ΟΡΧΩΝ

4. Impressions of five private seals.

National Museum, Copenhagen, Inv. 8617.

K. Friis Johansen, *Acta Archaeologica*, I (1930), 44, No. 6, Figs. 10 and 18 e–f, 19 f.

1. χρεοφυλακικός—”Ορχων.

2. 'Επ[ωνίου]—βλρ—”Ορχω[v].

3. 'Ανδρ[αποδικῆς]—βλρ—”Ορχων.

Date: 132 Sel.—180 B.C. (time of Seleucus IV Philopator). The type of Apollo standing with an arrow in his r. hand and leaning on a tripod is peculiar to the coins of Seleucus II (our Pl. VII, 6). Later the same figure appears again only once under Seleucus IV on his copper (*BMC*, p. 32, Nos. 19–24, Pl. X, 9; *Babelon, Rois de Syrie*, Nos. 479–491, Pl. XI, 16 [our Pl. VII, 7]). This fact permits us to assign all the undated impressions with the figure of standing Apollo to the time of Seleucus IV rather than to that of Seleucus II.

#### 43. Bulla (0.040–0.035).

Pl. VII, 4.

1. Impression of an almost circular seal (0.030–0.029). Apollo naked standing l., with an arrow in his r. hand, his l. leaning on a tripod. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ To the l. from above: ΟΡΧΩΝ

2. Impressions of six private seals, one with a Greek head of Medusa. One impression (sphinx, crescent, and star) repeated twice.

Musée du Cinquantenaire, Brussels.

L. Speleers, *Catalogue des intailles et empreintes orientales des Musées Royaux du Cinquantenaire* (1917), p. 236, No. 205.

χρεοφυλακικός—”Ορχων.

#### 44. Bulla (0.042–0.037). Traces of combustion.

1. Impression of an oval seal (0.027–0.020). Apollo l. as on No. 43. To the r. from above: ΧΡΕΟΦΥΛΑ . . . . To the l. from above: ΟΡΧΩΝ

2. Impressions of thirteen private seals. Two of the seals (both showing the figure of a winged human-headed bull running r.; beneath, grain) have been impressed twice each. Note, moreover, that one impression shows an indistinct figure and (below) the sign Y, typical for the Seleucid coins; on another there is a lion running r., and an Aramaic inscription פָּנִידְתָּם; according to Professor Torrey it is the name Nidit(tum). On this name see the note of Professor Dougherty, pp. 94 ff.

Morgan Library Collection, No. 2634.

A. Clay, *Babylonian Records in the Library of J. Pierpont Morgan*, (1923), IV, 54, No. 56, Pl. VI.

*χρεοφυλακία[κικός]*—”Ορχων.

45. Bulla (0.030–0.035).

1. Impression of an oval seal (0.024–0.029). Apollo l. as on No. 43. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ To the l. from above: ΟΡΧΩΝ

2. Impressions of six private seals.

National Museum, Copenhagen, Inv. 8618.

K. Friis Johansen, *Acta Archaeologica*, I (1930), 43–44, No. 5, Fig. 9.

*χρεοφυλακικός*—”Ορχων.

46. Fragment of a bulla (0.0385–0.0365).

1. Impression of an oval seal (0.028–0.021). Apollo l. as on No. 43. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ To the l. from above: ΟΡΧΩΝ

2. Impressions of six private seals, all different: (1) capricorn, in front crescent, above star; cf. Jordan, p. 64, No. 8, Pl. 86 n; (2) three women draped, standing r.

Kaiser Friedrich Museum, Berlin, No. VA 6037.

J. Jordan, *Uruk-Warka*, p. 65, No. 20, Pl. 87 i.

*χρεοφυλακικός*—”Ορχων.

47. Bulla (0.037–0.034), burned black.

1. Impression (fragmentary) of an oval seal (0.029–0.020). Apollo l. as on No. 43. Faint traces of the usual inscription.

2. Remains of impressions of five private seals.

Oriental Institute, Chicago, No. A 3787.

D. T Y C H E

48. Bulla (0.032–0.029).

Pl. VII, 8.

1. Impression of an oval seal (0.029–0.025). Goddess seated on a throne l., on her r. hand, stretched forward, a Victory l., in her l. a long scepter. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ To the l. from above: ΟΡΧΩΝ

2. Impression of an oval seal with straight short sides. Inscription of three lines: ΕΠΩΝΙ . . . | AMP | ΟΡΧΩΝ

3. Impression of a similar seal. Inscription of three lines: AN . . . O . . . | AMP | . . . .

4. Impressions of five private seals.

National Museum, Copenhagen, Inv. 8621.

K. Friis Johansen, *Acta Archaeologica*, I (1930), p. 45, No. 9, Figs. 14–15 and 18gh.

1. *χρεοφυλακικός*—”Ορχων.

2. *Ἐπωνί[ου]*—αμρ—”Ορχων.

3. *'Αν[δραπ]ο[δικῆς]*—αμρ—[”Ορχων].

Date: 141 Sel.—171 B.C. (time of Antiochus IV Epiphanes). The figure of the seated goddess is almost identical with the reverse type of

some copper coins of Antiochus IV where on the obverse appears his radiate head (*BMC*, p. 36, Nos. 22–30, Pl. XII, 2 and 3; Babelon, *Rois de Syrie*, Nos. 548–555, Pl. XIII, 1–3). It is probably the goddess Tyche Nikephoros as she is called by Babelon since she wears a tureted crown. The differences between the coins and the seals are on the one hand that the figure of the seals holds a long scepter which never appears on the coins and on the other that the figure on the coins shows an aquatic bird standing l. before the goddess on the ground which cannot be seen on the extant impressions of the seal (our Pl. VII, 9). Cf. the figure of Victory on the seals above, esp. No. 35. According to E. T. Newell, some of the copper coins of Antiochus IV with the figure of the Tyche were minted at Babylon. This fact, in connection with the character of the bird which accompanies the goddess, makes me think that the Tyche of our coins and seals is the Tyche of Babylon or Babylonia and that the new type was first used by Antiochus IV in Babylonia.

#### 49. Bulla (0.037–0.029).

1. Impression of an oval seal (0.029–0.025). Tyche l. as above. To the r. from above: Χ . ΕΟΦΥΛΑΚΙΚΟΣ To the l. from above: ΟΡΧΩΝ

2. Impressions of five private seals.

National Museum, Copenhagen, Inv. 8620.

K. Friis Johansen, *Acta Archaeologica*, I (1930), p. 45, No. 8, Fig. 13.  
χ[ρ]εοφυλακικός—”Ορχων.

#### 50. Bulla (0.035–0.035).

1. Impression of an oval seal (0.028–0.023). Tyche l. as above. To the r. from above: ΧΡΕΟΦΥΛ . . . . To the l. from above: ΟΡΧΩΝ

2. Impressions of seven private seals, three of them Greek (a portrait head r., a standing figure, Eros with the crown r.).

Musée du Cinquantenaire, Brussels.

L. Speleers, *Catalogue des intailles et empreintes orientales des Musées Royaux du Cinquantenaire* (1917), p. 237, No. 206.  
χρεοφυλ[ακικός]—”Ορχων.

#### E. ATHENE

#### 51. Bulla (0.038–0.0355).

Pl. X, 6.

1. Impression of an oval seal (0.027–0.018). Athene standing r. wearing a helmet, on her r. hand a Victory turned r., the l. leaning on a shield and holding a spear. To the l. from above: ΧΡΕΟΦΥΛΑΚΙΚΟ . To the r.: traces of letters.

2. On the other side of the bulla impression of an oval seal (0.025–0.017). Inscription of four lines: ΕΠΩΝΙΟΥ | ΣΕΡ Π | ΟΡΧΗΝΟΥ | ΛΙΜΕΝΟΣ

3. Impressions of eight private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6034.

1. Χρεοφυλακικό[ς]—"Ορχων.

2. Ἐπωνίου—ξέο—'Ορχηνοῦ—λιμένος.

Date: 166 Sel.—146 B.C. (time of Demetrius Nicator). It is interesting to note that almost exactly the same type of Athene appears at about the same time on the coins of Alexander Balas (*BMC*, p. 52, No. 15, Pl. XV, 5; p. 54, Nos. 36–42, Pl. XVI, 7, and p. 56, Nos. 61–62, Pl. XVI, 15; Babelon, *Rois de Syrie*, Nos. 833–846, Pl. XVII, 18) and again on coins of Demetrius II (*BMC*, p. 59, Nos. 15–16, Pl. XVII, 10; *Cat. Naville*, X [1925], No. 1181); cf. our Pl. VIII, 3. The differences between the figure on the coins and that on the impressions are as follows: on the coins Athene is turned l. not r., the Victory of the coins is turned r. and is crowning Athene; the shield on the coins shows an episemon in the form of a Medusa-head. After Alexander and Demetrius the type reappears again on the reverse of some gold coins of Antiochus VII (Babelon, *Rois de Syrie*, No. 193, Pl. VI, 1; Bouché-Leclercq, *Hist. d. Sel.*, II, p. 651, No. 10).

### 52. Bulla (0.035–0.023).

1. Impression of an oval seal (0.023–0.019). Athene r. as above. To the l. from above: XP . ΟΦΥΛΑΚΙΚΟΣ To the r. from above: OPXΩΝ

2. Impressions of seven private seals.

National Museum, Copenhagen, Inv. 8619.

K. Friis Johansen, *Acta Archaeologica*, I (1930), p. 44, No. 7, Fig. 11–12.

χρεοφυλακικός—"Ορχων.

### 53. Bulla (0.031–0.029–0.022) burned black. Looks as if polished. Inside, carbonized material.

1. Impression of an oval seal. Athene r. as above. To the l. from above: . . . ΦΥΛΑΚ . . . To the r. from above: OPXΩΝ

2. Surface badly damaged. One impression of a seal.

Oriental Institute, Chicago, No. A 4001.

[χρεο]φυλακ[ικός]—"Ορχων.

### 54. Fragment of a bulla.

Pl. VIII, 1.

1. Impression (fragmentary) of an oval seal (0.022–0.019). Athene r. as above. To the l. from above: XPEΟΦΥΛΑΚΙΚΟ . To the r. from above: OPXΩ .

Cabinet des Médailles, Paris.

χρεοφυλακικό[ς]—"Ορχων.

### 55. Fragment of a bulla (0.036–0.032).

Pl. VIII, 2.

1. Impression of an oval seal (0.029–0.019). Athene r. as above. To the l. from above: XPEΟΦΥΛΑΚΙΚΟΣ To the r. from above: OPXΩΝ

2. Impression of one private seal.

Kaiser Friedrich Museum, Berlin, No. VA 6046.

χρεοφυλακικός—"Ορχων.

56. Fragment of a bulla (0.0425–0.029).

1. Impression of an oval seal (0.025–0.020). Athene r. as above. To the r. remains of inscription running from above: . . . . . ΟΣ To the l. from above: ΟΡΧΩΝ

2. Impressions (fragmentary) of two private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6013.

[χρεοφυλακικ]ός—"Ορχων.

57. Fragment of a bulla.

1. Impression of an oval seal (0.037–0.034). Athene standing l. wearing a helmet, leaning with the r. hand on a spear, with the l. on a shield. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟ . To the l. from above: ΟΡΧΩΝ

2. Impressions (fragmentary) of three private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6069.

J. Jordan, *Uruk-Warka*, Pl. II e; p. 65, No. 23.

χρεοφυλακικό[ς]—"Ορχων.

This type of Athene appears but rarely on the Seleucid coins. See the coins of Demetrius II, *BMC*, p. 61, No. 27, Pl. XVIII, 9 (on the obverse, head of the king in elephant skin; cf. our No. 70). Cf. Nos. 75–77. Our Pl. VIII, 7.

### III. IMPRESSIONS SHOWING SYMBOLS OF ROYAL POWER

58. Fragment of a bulla.

Pl. VIII, 8.

1. Impression of an oval seal (0.025–0.022). Circular Macedonian shield with the figure of an anchor which fills the ground. Above from l. to r.: ΧΡΕΟΦΥΛΑΚΙΚΟ and (beneath the last O) Σ Below from l. to r.: ΟΡΧΩΝ

2. Impressions of four private seals. One shows a winged bull r.; below, a sign or letter: Λ

Oriental Institute, Chicago, No. A 4066.

1. χρεοφυλακικός—"Ορχων.

It is well known that the anchor, the head of a horned horse, and the tripod were for centuries symbols, almost coats of arms, of the Seleucids. They appear very frequently on the Seleucid coins, especially on those of Seleucus I and Antiochus I. The figure of an anchor placed on a Macedonian shield is peculiar to the coins of Antiochus I (*BMC*, p. 11, Nos. 34–40, Pl. IV, 7 and 8; Babelon, *Rois de Syrie*, Nos. 167–173, Pl. V, 7 and 8 [our Pl. VIII, 9]). There is, however, a difference between the shield and anchor of our impression and those of the coins. Our anchor is much larger than that of the coins and the shield is not adorned with the typical ornaments of Macedonian shields which regularly appear on the shields represented on the coins. After Antiochus I the combination of a shield and an anchor never appears on Seleucid

coins while the anchor alone is not uncommon; see, e.g., the coins of Demetrius II, *BMC*, p. 61, No. 25, Pl. XVIII, 7; Babelon, *Rois de Syrie*, Nos. 935–938, Pl. XIX, 7. This fact might suggest that our impression comes from a seal which belongs to the reign of Antiochus I. Cf. Nos. 79–81.

#### IV. BULLAE BEARING IMPRESSIONS OF TAX SEALS ONLY

**59. Fragment of a bulla (0.027–0.017).**

1. Impression of an oval seal with straight short sides (0.022–0.014). Inscription of two or three lines: . . . ΩNIO . | BIP | . . . .

Kaiser Friedrich Museum, Berlin, No. VA 6165.

'Επ]ωνιο[v]—βιρ—["Ορχων] or perhaps ['Ορχηνοῦ].

Date: 112 Sel.—200 B.C. (time of Antiochus III).

**60. Fragment (about a half) of a bulla (0.039–0.034).**

1. Impression of a part of an oval seal with straight short sides (0.012–0.012). Inscription of three lines: ΕΠΩΝ . . . | Λ | IP | OPX .

2. Impressions of three private seals. One shows the figure of Athene standing l.; the elbow of the l. arm rests on a column, the r. hand on a shield.

Oriental Institute, Chicago, No. A 3790.

'Επων[ιο]—αιρ—"Ορχ[ων].

Date: 111 Sel.—201 B.C. (time of Antiochus III). Cf. Nos. 21 and 22.

**61. Two fragments of one or two bullae.**

Pl. X, 5.

1. Impression of an oval seal with straight short sides (h. 0.010). Inscription of one line: . . . HNOY | >

2. The same.

Oriental Institute, Chicago, Nos. A 4051A and A 4051B.

[']Ορχ]ηνοῦ (half-anchor).

**62. Bulla (0.022–0.021), black.**

Pl. XI, 2.

1. Impression of an oval seal (0.019–0.011). Inscription of three lines: ΑΛΙΚΗΣ | Ω< | ΟΡΧΩΝ

2. Impressions of two private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6094.

J. Jordan, *Uruk-Warka*, p. 65, No. 26, Pl. 88 f and i.

'Αλικής—Ω—"Ορχων.

Date: 90 Sel.—222 B.C. (time of Antiochus III). There is space in the second line of the inscription before Ω. We may therefore restore another numeral (from one to nine).

**63. Bulla (0.032–0.031).**

Pl. XI, 3.

1. Impression of an oval seal (0.020–0.019); the lower part of it found no place on the bulla. Apollo naked, seen from the back, standing r., holding in his r. an arrow. No traces of inscription.

2. Impression of an oval seal with straight short sides, damaged on the right side (0.018–0.015). Inscription of three lines: ΑΛΙΚΗΣ | ♀ | ΟΡΧΩ .

3. Impressions of two private seals.

Morgan Library Collection No. 2633 (Babylonian Collection, Yale University).

A. Clay, *Babylonian Records in the Library of J. Pierpont Morgan* (1923), IV, 53, No. 54, Pl. 50 and Pl. VI.

Αλικήσ—♀ (?)—Ορχων.

The impression may come from the same seal by which the impression of No. 62 was produced. However, there are some slight differences between the two impressions, and the date of the second line of the inscription of our bulla is far from being certain.

#### 64. Bulla (0.026–0.022).

Pl. XI, 1.

1. Impression of an oval seal (0.023–0.015). Inscription of three lines: ΑΛΙΚΗΣ | // | ΠΕ | ΟΡΧΩΝ

2. Impressions of four seals, one at least of half-official character: (1) head of Apollo (?) with long hair and a laurel crown r.; (2) head of a Greek woman r. (the queen? or Artemis?); (3) oblong seal of the same size and shape as the one with the inscription, with perhaps the same symbol (half an anchor) as in the second line of the inscription; (4) unrecognizable; perhaps a sphinx or a lion r. and a star.

Louvre, Paris.

L. Delaporte, *Catalogue des cylindres, cachets et pierres gravées de style oriental*, II (1923), No. A182, Pl. 123, 5 a, b, c.

Αλικήσ—. ρε—Ορχων.

The date is incomplete: one hundred and something of the Seleucid era. The letter or sign after the P of the second line is a mystery to me. Is it the number six? And have we to read 106 Sel.—206 B.C.? The head of Apollo is almost identical with the head supposed to be Isis of the coins of Antiochus IV (*BMC*, p. 38, No. 44, Pl. XII, 12; Babelon, *Rois de Syrie*, p. 75, Nos. 589–597, Pl. XIII, 16). Cf. No. 26, 4, and above, note to No. 1. The female head is similar to the heads of Artemis which are frequent on the Seleucid coins. The head of our impression, however, is a portrait head similar to the head which occurs on some coins of Antiochus III and is described by Babelon as that of a queen (*Rois de Syrie*, No. 426, Pl. X, 12).

#### 65. Fragment of a small bulla (0.020–0.015).

Pl. X, 7.

1. Impression of an oval seal with straight short sides (0.020–0.015). Inscription of five lines: ΠΛΟΙΩΝ | ΕΥΦΡΑΤΟΥ | ΔΜΡ | ΑΠΟΔΛΟΔ . | . . . .

2. Impressions of eight private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6164.

Πλοίων—Εύφρατου—δμρ—Απολλοδ[ωρ]—. . . . .

Date: 144 Sel.—168 B.C. Cf. No. 66.

#### 66. Bulla (0.0215–0.0195).

Pl. X, 8.

1. Part of impression of an oval seal, the left side straight (0.020–0.015). Inscription of five lines: ΠΛΟΙΩ . | ΕΥΦΡΑ . . . | Ν . | ΗΠΑΚ . . . | . . ΛΕ . . .

2. Impressions of two private seals.

Kaiser Friedrich Museum, Berlin, No. VA 6139.

Πλοιώ[v]—Εύφρα[του]—ν[ρ]—Ηπακ . . . | . . λε . . .

Date: 150 Sel.—162 B.C. Cf. No. 65.

## B

### *Clay seals*

#### I. IMPRESSIONS SHOWING PORTRAIT HEADS OF KINGS AND QUEENS

67. Impression of an oval seal (0.030–0.022). Pl. V, 2.

Bust of King Antiochus IV wearing a radiate crown of seven rays r. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ To the l. from above: ΟΡΧΩΝ

String hole, no marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 10015.

Impressions of the same seal are Nos. VA 6031, 6039, 6047, 6049, 6104, and six more without numbers. All the impressions show string holes. One (6104) has a string hole with rotten string inside. All the impressions were found on the floor of the same room of the Wuswas temple No. 90.

J. Jordan, *Uruk-Warka*, p. 65, No. 12, Pl. 87 b.

χρεοφυλακικός—"Ορχων.

See above, Nos. 6–10.

68. Impression of an oval seal (0.023–0.017). The left part is missing. Pl. V, 4.

Fine royal head or bust r. The treatment of the hair and the features of the head suggest Demetrius I (162–150 B.C.). Less probable is the identification with Antiochus VII Euergetes (138–129 B.C.).

String hole, no marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6172.

Impression of the same seal is No. VA 6174.

J. Jordan, *Uruk-Warka*, p. 65, No. 15, Pl. 87 a.

The identification of the king represented on the seal with Demetrius I is supported by the coins. I may note that E. T. Newell agrees with my suggestion to recognize in the man represented on our seal Demetrius I rather than Antiochus VII. Cf. our Pl. V, 5.

69. Impression of an oval seal (0.0225–0.019). Surface badly damaged. Pl. V, 6.

Head or bust of a king r.

String hole, no marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6086.

Impression (fragmentary) of an oval seal (0.024–0.0215) of No. VA 6123 is very similar; string hole; draped bust of a king r.

E. T. Newell suggested with some hesitation Timarchus to be the person represented on the seal of Orchoi; see *BMC*, p. 50, Nos. 1–3, Pl. XV, 3, and Babelon, *Rois de Syrie*, Nos. 702–705, Pl. XV, 14–17. Cf. our Pl. V, 7.

70. Impression of an oval seal (0.024–0.018). Pl. VI, 1 and 2.

Bust of a Seleucid king with the elephant skin r.

String hole, no marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6146.

J. Jordan, *Uruk-Warka*, p. 65, No. 17, Pl. 87 c.

Is this the idealized (Alexandrized) portrait of Demetrius II? See *BMC*, p. 61, Nos. 26 and 27, Pl. XVIII, 9. It was E. T. Newell who pointed out to me that the skin on the head of the king is the elephant's, not the lion's, and suggested that the king represented on the seal is Demetrius, who on the coin quoted above is wearing the elephant skin. Cf. our Pl. VI, 3.

71. Impression of an oval seal (0.019–0.019), the lower part missing. Pl. VI, 8.

Veiled head or bust of a woman r. Probably a queen.

String hole, marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6160.

J. Jordan, *Uruk-Warka*, p. 65, No. 19, Pl. 87 f.

Cf. veiled heads of queens (?) on some Seleucid coins; e.g., Antiochus III (Babelon, *Rois de Syrie*, Nos. 424–436, Pl. X, 13, and Seleucus IV, *BMC*, p. 33, Nos. 29–31, Pl. X, 13; Babelon, *Rois de Syrie*, Nos. 505–508, Pl. XI, 19).

72. Impression of an oval seal (0.023–0.015), left part missing. Pl. VI, 10.

Head or bust of a king or queen r., very faint.

Kaiser Friedrich Museum, Berlin, No. VA 6121.

There is another impression of the same seal in the same collection.

Cf. No. 71.

## II. IMPRESSIONS SHOWING FIGURES OF GODS AND GODDESSES

### A. APOLLO

73. Impression of an oval seal (0.030–0.021), incomplete below and above.

Apollo naked l., his l. arm leaning on a tripod, in his r. hand an ar-

row. To the r. from above: . . ΕΟΦΥΛΑΚΙΚΟΣ To the l. from above: ΟΡΧΩΝ

String hole, no marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6057.

χρεοφυλακικός—”Ορχων.

Cf. Nos. 42–47.

74. Impression of an oval seal (0.034 high), right side missing.

Apollo standing l., holding in the r. lifted hand an arrow. To the l. from above: ΟΡΧΩΝ

String hole, no marks on the back. Rotten string still inside the hole.

Kaiser Friedrich Museum, Berlin, No. VA 6144.

[χρεοφυλακικός]—”Ορχων.

Cf. No. 73.

B. ATHENE

75. Impression of an oval seal (0.025–0.020), right side missing.

Pl. VIII, 5.

Athene standing l., r. hand leaning on a spear, l. on a shield. To the l. from above: ΟΡΧΩΝ Beneath this inscription from l. to r. two letters: . Ω

String hole, no marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6070.

[χρεοφυλακικός (?)]—”Ορχων— . ω.

The figure of Athene of the seal described above (cf. Nos. 57 and 76–77) is identical with that of the very rare coins of Demetrius II (*BMC*, p. 61, No. 27, Pl. XVIII, 9). This makes it certain that our seals belong to the first reign of Demetrius II (146–138 B.C.). Our Pl. VIII, 7.

76. Impression of an oval seal (0.0325 high), left side missing.

Pl. VIII, 4.

Athene standing l., r. hand apparently leaning on a spear, l. on a shield with an ἐπίσημον, a head of Medusa. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚ . .

String hole, no marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6147.

χρεοφυλακικ[ός]—[”Ορχων].

Cf. No. 75.

77. Impression of an oval seal (0.024–0.014).

Athene standing l., the r. hand leaning on a spear, the l. on a shield. To the r. from above: ΧΡΕΟΦΥΛΑΚΙΚΟΣ To the l. from above: ΟΡΧΩΝ

String hole, no marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6087.

χρεοφυλακικός—”Ορχων.

On the type see No. 75.

78. Impression of an oval seal (0.025–0.019), part of the left side missing. Pl. VIII, 6.

Slender figure of Athene standing l., on the r. shoulder the spear, in the l. hand a small shield. To the r., beginning beneath the shield near the bottom of the seal, from above: XPEO . . (continuation on the l. side?).

String hole, no marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6052.

$\chi\rho\epsilon\omega[\phi\lambda\alpha\kappa\kappa\omega(\text{?})]$ .

This type of Athene never appears on Seleucid coins.

### III. IMPRESSIONS SHOWING SYMBOLS OF ROYAL POWER

79. Impression of an oval seal (0.0215–0.021). Pl. IX, 1.

Tripod-lebes of a peculiar form. The cover of the lebes has the form of a truncated cone surmounted by a flat disk. To the r. from above: ΒΥΒΛΙΟΦΥΛΑ .

String holes, marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6143.

Impression of the same seal is No. VA 6020.

$\beta\nu\beta\lambda\iota\omega\phi\lambda\alpha[\kappa\kappa\omega]$  or  $\beta\nu\beta\lambda\iota\omega\phi\lambda\alpha[\kappa\omega]$ .

It is well known that the tripod-lebes is a common type of the R of the Seleucid coins. I have not seen, however, on the coins any tripod-lebes which was identical with the tripod of our seal. The nearest to it is the tripod-lebes of the bronze coins of Antiochus I (*BMC*, p. 12, Nos. 45–49, Pl. IV, 17; Babelon, *Rois de Syrie*, p. 23, Nos. 153–155, Pl. V, 2). Even these tripods, however, are short and clumsy if compared with our tripod and do not show exactly the same form of cover. Cf. our Pl. IX, 2.

80. Impression of an oval seal (0.024–0.017). Pl. VIII, 10.

Anchor with the head of the horned horse looking l. to the l. of it.

String hole, marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6136.

Impression of the same seal is on No. VA 6190, string hole, marks on the back.

J. Jordan, *Uruk-Warka*, p. 65, No. 27, Pl. 88 1.

The anchor appears on the R of the Seleucid coins twice, first in the reign of Seleucus I and then much later in the reigns of Demetrius II, Antiochus VII, and Alexander II. Of the coins of Seleucus I which show the anchor (*BMC*, p. 3, Nos. 41, 42, Pl. II, 1, 2, and p. 5, Nos. 47, 48, 51, Pl. II, 6, 9, 8) one (copper) has the anchor coupled with the horned horse's head exactly as on our impressions (*BMC*, p. 5, No. 51, Pl. II, 8; the obverse shows the heads of the Dioscuri, cf. Babelon, *Rois de Syrie*, p. 8, No. 49, Pl. II, 3). As far as I know the combination of

an anchor and a horse's head on the same side of a coin never appears on later coins. Cf. No. 58 and our Pl. VIII, 9.

81. Impression of an oval seal (0.023–0.017). Pl. IX, 3.

The forepart of the body of a horned horse r.; to the l., above, the anchor.

String hole, no marks on the back.

Kaiser Friedrich Museum, Berlin, No. VA 6120.

It is well known that the head of a horned horse is one of the most common types of the coins of Seleucus I and to a certain extent of those of Antiochus I. The type of our seal is different. It shows half of the body of the horse. Such a type appears on some very rare copper coins of Seleucus I which show on the obverse the head of one of the Dioscuri (see Babelon, *Rois de Syrie*, p. xxiii, note 8). I reproduce here a coin with this type from the collection of E. T. Newell. Note that the coins do not show the anchor coupled with the horned horse, as on our seal. Cf. No. 58 and our Pl. IX, 2.

### III

## HISTORICAL AND JURIDICAL COMMENTS

### A

#### *Place, time, relation to the coins.*

THE fact that we have so many objects of one class found in a single place and so few found elsewhere is of course due to chance. There can be no doubt that the "Wuswa" temple was a kind of record office, be it that the state record office was housed in the temple or that the temple itself played the part of a record office. The find is unique. I have mentioned a somewhat similar find at Selinus, one at Cyrene, and another at Edfu which will be discussed later in this article.

However, clay bullae of the same kind as those found at Warka are not peculiar to Warka alone and do not represent therefore a local peculiarity of Uruk or Orchoi. I have mentioned in the Introduction that bullae of the same type have been found both at Nippur and at Seleucia. And I am confident that both bullae and single clay impressions were found in the ruins of other Babylonian cities. If they were not thrown away as valueless rubbish they may still be rediscoverable in the drawers of our museums. Moreover, we will see later in this paper that the institution of the *χρεοφύλακες* was not a local municipal institution of Orchoi but a state institution of the Seleucid Empire. Thus impressions of their seals are likely to be found in any larger city of the Seleucid Empire.

The editors of the bullae with the chreophylakes stamps have pointed out many times<sup>1</sup> that the form "*Opxoi*", which was no doubt the official Greek transcription of the Babylonian name of the city since it was used by the Greek record officers, is not the form which is known to Marinus and Ptolemaeus (*Geogr.*, V, 20, 7; VIII, 20, 29). Their spelling is '*Opxón*'. However, both Strabo (XVI, 739) and Pliny (*N.H.*, VI, 123 and 130) use the ethnicon '*Opxñvol*' which is also used by the tax officers of Orchoi and is derived no doubt from the form '*Opxoi*' not '*Opxón*'.

The editors of the bullae have never studied them from the point of view of chronology. Our catalogue, however, shows with full evidence that the bullae and the single clay impressions

<sup>1</sup> The last to do so was K. Friis Johansen, *Acta Archaeologica*, I (1930), 48, n. 12.

found at Orchoi, Seleucia, and Nippur all belong to the Hellenistic period. None is Parthian or Roman.<sup>2</sup> Within the Hellenistic period (i.e., the rule of the Seleucids) the bullae are confined to a rather short stretch of time.

Some of the bullae, as can be easily learned from our catalogue, are exactly dated. I mean those with the tax stamps. The tax stamp always or in most cases bears a date, expressed in terms of the Seleucid era. Since most of the tax stamps occur on bullae stamped by the chreophylakes, we are able with their help to date almost all the inscribed seals of the chreophylakes of which impressions occur both on the bullae and on single clay seals. On the other hand, comparison with the coins of the Seleucids gives us an important means of checking up the exactness of the chronological data of the tax stamps. In no one case does this comparison contradict the data of the stamps.

Thus, with the help of the dated stamps and by analyzing the types of the inscribed seals of the chreophylakes we may date with certainty all the bullae on which these seals occur. There is no dated tax inscription at Orchoi which is earlier than the reign of Antiochus III, and they come down only to the time of Demetrius II (his first reign). Later tax seals are unknown to me.

The investigation of the seal types which are not dated by means of tax seals leads us to conclusions which are little different. One seal-impression on a bulla (No. 58), that with the symbols of the Seleucid power—Macedonian shield and anchor, finds its best parallel in the early coinage of the Seleucids, the coins of Antiochus I, and may be dated as belonging to his reign. The same remark refers to the clay seals with other symbols of the royal power, both inscribed and uninscribed (Nos. 79–81). Likewise among the seals with portrait heads of the kings there is one which probably belongs to the time of Seleucus III; i.e., it is earlier than Antiochus III.

However, these earlier inscribed seals are exceptions. The bulk of the inscribed chreophylakes seals which are not dated by means of tax seals belongs to the reigns of Antiochus III, Seleucus IV, and Antiochus IV. A rather large group of such seals

<sup>2</sup> R. de Mecquenem, *Rev. d. Assyr.*, XXIV (1927), 14 f., Nos. 90–101, has recently published a set of small oval pieces of clay with impressions of seals on both sides found at Susa in 1925–1926. He is certainly right in ascribing them to the Parthian period. It may be that we have to do with clay tesserae like those of Palmyra, to be connected with funeral observances of some sort, as distributions of gratuities or banquets after the funeral.

may be dated in the reign of Demetrius II. No later coin types appear either on the inscribed seal-impressions of the bullae or on the single clay seals. Thus it was between about 223 B.C. and approximately 140 B.C. (or perhaps a little later) that the majority of the bullae sealed by the *χρεοφύλακες* were used in the record offices of the Babylonian cities.<sup>2a</sup>

It was an interesting time in the history of the Seleucids. Both Antiochus III and Antiochus IV were enthusiasts for Hellenistic civilization and fervent believers in their mission to keep up its light in the Near and the Far East. The successes of Antiochus III in the Far East made it appear that he was destined to be a real successor to the first rulers of his line, especially Seleucus I. His failure in the West, in his duel with the Romans, undermined his successes in the Orient. However, Antiochus IV inherited at least a part of his predecessor's oriental empire. Restricted and harassed by the Romans and their friends in the West, he devoted his efforts to creating a strong and well-consolidated Graeco-oriental empire in his oriental provinces, where he thought his hands were free. It is well known that his endeavors to Hellenize Palestine were a complete failure, not so much because of the fanatic resistance of the Jews as because of the support granted to the Jews by the Romans. This makes it the more interesting to follow him on the same path of Hellenizing policy in Mesopotamia and Babylonia, where he certainly inherited the devices of Antiochus III. Our bullae reflect, as will be seen later in this paper, only a little detail of this policy. How-

<sup>2a</sup> The same is probably true as regards the bullae which were not stamped by the *χρεοφύλακες*. Similar chronological data are furnished by the bullae and clay seals of Seleucia; see below, *Excursus III*, by Mr. McDowell. The only bulla of Seleucia in his Catalogue which bears an earlier date is No. 1, a δάλικη bulla of the year 26 Sel.; i.e., 285 B.C. I have examined this bulla repeatedly and must say that I am not convinced that the reading of Mr. McDowell is correct. The letters CK seem to appear in a certain light but a change of light makes the illusory lines vanish. I am convinced that the date of this bulla consists, like those of the other bullae, not of two but of three letters. Besides, the stamp has the usual form and the usual letters of the later bullae. I may note in this connection that the cuneiform documents found in Mesopotamia (especially at Uruk) and dated by the Seleucid era and the Seleucid kings stop in 141 B.C. and are replaced by documents dated by the two eras, the Seleucid and the Arsacid and the names of the Parthian kings; see Marian San Nicolò, *Beiträge zur Rechtsgeschichte im Bereich der Keilschriftlichen Rechtsquellen* (Oslo, 1931), p. 55 and p. 260.

ever, even this stray ray of light in the complete darkness of our historical tradition is of a certain interest and value.<sup>8</sup>

In the notes to the various numbers of my catalogue I have carefully compared the types of the inscribed seals of the chreophylakes with the coins of the Seleucids. The result of this comparison may be summed up as follows. The similarity between the two sets of official stamps—one used for the coins, the other for the seal-impressions—is striking. No doubt both of them were created in the same center and by the same artists or artisans. Similarity, however, does not mean identity. We have two different sets of stamps: that of the coins and that of the seals. I am convinced that it was not by chance that similar but not identical types were used for the two sets. The differentiation between the two was intentional. The seals of the χρεοφύλακες were intended to be like the coin stamps but not identical with them.

It is useless to repeat here those of my notes to the description of the single bullae which have to do with this comparison. Let me, however, summarize them. The seal-portraits of the kings are almost identical with those of the coins. It must be noted, however, that almost none of the inscribed seal-portraits represents the king as a ruler or a man. The three types which we possess—the laureate head of Seleucus III and Antiochus III (?) and the radiate head of Antiochus IV—represent a blend between the monarch and a god, who is sometimes Apollo, the ancestor of the Seleucids, and sometimes Helios, another aspect of Apollo. On the seals, therefore, as a rule the kings appear as gods, without any disguise. On the coins, to the contrary, they are mostly men, and very rarely assume the features of a god. The fact has a certain importance for the history of the royal cult of the Seleucids. It must be noted further that on the seals the draped bust prevails, whereas the head without drapery is the rule on the coins.

No corresponding coin type will be found for the heroized portrait statue of King Antiochus III of our No. 18. The type is not unfamiliar both to the coins in general and to the statuary of the Hellenistic period, but is foreign to the coinage of the Seleucids. In itself it belongs to the same class as the portraits of kings identified with gods.

As regards the other types of the inscribed seals of chreophylakes, there is only one which strictly coincides with those of the coins. It is the standing Apollo of our Nos. 43–47 (cf. Nos. 73–74), all probably belonging to the reign of Seleucus IV. The other

<sup>8</sup> On the endeavors of Antiochus IV see my remarks in *Cambridge Anc. Hist.*, VII, 188 ff.

types never appear on the seals exactly as they do on the coins. I refer to the standing Victory with the eagle at her feet, the standard seal type of the time of Antiochus III (Nos. 19–41), to the seated Tyche of Antiochus IV (Nos. 48–50), which alongside the radiate head of the king (Nos. 6–10, cf. No. 67) was the standard seal type of the reign of Antiochus IV, and finally to the standing Athene of the first part of the reign of Demetrius II (Nos. 51–57 and 75–78). All these are modifications of coin types, but do not reproduce them.<sup>4</sup>

The inscribed chreophylakes seals are not the only official seals of the Hellenistic period of which impressions were found at Orchoi. We possess some impressions of seals both on bullae and on single clay seals which show official types but bear no inscriptions. They are characterized by portrait heads of deified and non-deified kings and queens, and by the favorite symbols of the Seleucids—the anchor and the horned horse head (Nos. 4, 5, 11–13, 15, 68–72, and Nos. 80 and 81). The uninscribed seals mentioned above are not very easy to date. It is very probable that the set with the symbols, like that with inscriptions dealt with above, belongs to the early Seleucid times, since the symbols in the same shape and the same size appear on coins of Seleucus I and on those of Antiochus I. It is a more difficult task to date the seals with the portrait heads of kings and queens. Everything here is pure guesswork. The head with the elephant skin represents no doubt a Seleucid king who wanted to appear in the guise of Alexander. A very similar head appears on a very rare coin of Demetrius II. It is well known that portraits of queens rarely appear on Seleucid coins before Cleopatra Thea, the queen of three kings: Alexander Balas, Demetrius II, and Antiochus VII.

It is interesting to note that on the bullae the seal-impressions which look like official seals but bear no inscriptions are quite exceptional. Almost all the official seal-impressions without inscriptions are found on single clay seals of the common Greek type. A kind of transition is represented by No. 78 with its rudimentary inscription. However, I am convinced that the uninscribed seals also belonged to the chreophylakes.

If we take my chronology of the various types of seal-impres-

<sup>4</sup> I may note in this connection that most of the types used for the seals occur in the Seleucid coinage on copper, not on gold or silver. The only exception is again the type of the standing Apollo. This may account for the fact that the most popular types of Seleucid gold and silver never appear on the seals (Apollo on the omphalos, Zeus Nikephoros, Tyche with the short scepter, etc.).

sions for granted we may reconstruct the history of our official seal-impressions in the following way. Official seals began to be used in the record office of Orchoi under the first Seleucids. The seals bore official types and sometimes inscriptions. They were used for sealing documents written on papyrus or parchment in the common Greek fashion: the seal was impressed on a lump of clay used for sealing a business document of one kind or another. The employment of bullae was rare. With Antiochus III a new method of sealing documents came into common use alongside the common Greek method. It was a compromise between the Greek and the Babylonian system, a kind of concession to Babylonian habits. This was the employment of bullae, as described in the Introduction. The official seals used at that time bore not only an official type but also the title of an official, the *χρεοφύλαξ* of Orchoi. The same seals were used for sealing documents in the Greek fashion. Such seals were employed all through the reigns of Antiochus III, Seleucus IV, and Antiochus IV. During those reigns the form of the seal changed once or twice, or two or three types of seals, it may be, were used contemporaneously. After Antiochus IV we have both inscribed and uninscribed seals. It may be that Alexander Balas used both. Certainly Demetrius II did so. No seal-impression known to me can be assigned to a time later than the first reign of Demetrius II. This may be an accident. However, the lack of seals for this period would be easy to explain. For the greater part of the period between the defeat of Demetrius II by the Parthians and a second defeat of Antiochus VII by the same enemy, Babylonia was a Parthian province. Whether the Parthians inherited the Seleucid system of record offices or not we do not know exactly. We shall discuss the problem later in this paper. It seems evident, however, that in the Parthian times Orchoi ceased to be the more or less important place that it had been. If we ever find seal-impressions of Parthian record officers in great number, it will probably not be in the ruins of Orchoi.

The use of official seals by officers of the crown and especially by record officers was not confined to the Seleucid Empire. In Egypt in the Roman period many official documents were stamped or sealed by government officials of high and low standing.<sup>5</sup> The same is probably true for the Ptolemaic period. I have mentioned in the Introduction that some time ago an important

<sup>5</sup> See L. Wenger, art. "Signum," Pauly-Wissowa-Kroll, *R.-E.*, Zw. R., II, 2437 ff. Cp. J. C. Naber, *Mnem.*, LIII (1925), 413 ff.

find of seal-impressions of clay was made at Edfu or at Philae, probably in the record offices or the document depository of a temple.<sup>6</sup> In great part they show an official character. They all bear a portrait head of one of the Ptolemies, king or queen. The set begins probably with Ptolemy Philadelphus and ends with the last Ptolemies. Not one has an inscription. It is evident, as Milne has suggested, that the seals by which the impressions were produced were seals of state officials. The lack of inscriptions prevents us from knowing who the officials were. However, the fact that there are so many impressions makes it probable that the seals belonged to Ptolemaic record officers, perhaps the agoronomoi.

On the interesting subject of official seals and seal-impressions some further remarks may be made. The seals which have survived with documents on papyrus have been noted above, after Wenger. In connection with these I may mention the many impressions on lead and clay with which jars or bundles of various wares were stamped. I have published many of them belonging to the various departments of the financial administration of the Roman Empire: the *ratio patrimonii*, the *anabolicum*, the ἀρωματική.<sup>7</sup> An original seal of one of the tax contractors has survived in a silver stamp, probably the bezel of a ring, of uncertain origin now in the British Museum. It bears the inscription: Κάλ(λ)ιπ(π)ος ἀρχών(ης) Ἀδριανοῦ Καίσαρος and the portrait head of the emperor. I prefer the reading ἀρχών(ης) to that of ἀρχών suggested by Marshall, since it is hard to understand how a municipal magistrate could have used a stamp with the portrait of the emperor. An ἀρχών<sup>ης</sup> ("conductor"; i.e., contractor for collecting a tax) at the time of Hadrian was almost an imperial official, as I have shown in my *Staatspacht* (cf. Steinwenter, Pauly-Wissowa-Kroll, *R.-E.*, XIV, 987 ff.). It is not impossible that the stamp belonged to a collector of customs; cf. Dessau, *ILS*, 8858.

Another stamp of a similar form and perhaps similar origin,

<sup>6</sup> See above, pp. 13–14. Royal seals frequently occur among the various seals found all over the Near East. We possess also some impressions of these seals. I have mentioned those published by Allotte de la Fuye (*Intr.*, p. 10, note 4). Royal seal-impressions are dealt with by Menant also (quoted in the same note). It is interesting to note with Menant that on some clay lumps probably used for sealing bags there are impressions of one Egyptian and one Hittite royal seal.

<sup>7</sup> M. Rostovtzeff et M. Prou, *Catalogue des plombs de la Bibliothèque Nationale* (1899), pp. 7 ff.; M. Rostowzew, *Röm. Mitth.*, XIII (1898), 121; *CIL*, XIII, 3, 2, No. 10029, especially 10029, 43.

also in the British Museum, belongs to a different sphere. It bears like the first the head of Hadrian, and has the inscription Κλέων Ἀρτεμιδώρου παραφύλαξ. Παραφύλαξ is a well-known designation for a chief of police in the cities of Asia Minor. Our stamp shows that they were crown, not municipal, officers and played an important part in the life of Asia Minor. We know how much attention Hadrian paid to the efficient organization of the police force of the Roman Empire. It is interesting to note with Marshall that the παραφύλακες in Asia Minor had a good deal to do with the weights and measures, as is shown by a weight of the British Museum with the following inscriptions: λεῖτρα—Δημητρίου παραφύλακος.<sup>8</sup>

The types of almost all the Roman official stamps are the same as those used for the coins, or similar to them. They all show the head of the emperor with or without inscription. In this they apparently follow the tradition of the Hellenistic period represented by our bullae and clay impressions. The Hellenistic period in its turn followed the Greek traditions of the city-states. This is not the place to deal with the subject of the public seal, δημοσία σφραγίς. Suffice it to say in this connection that in some cases we may suppose that we still have engraved gems and impressions which exemplify the δημοσία σφραγίς used by officials of the city-state. Such are certain of the impressions of Selinus (club and dolphin, which are larger and occupy a more prominent place than the impressions of private seals) and the interesting impressions on clay pots from Priene, such probably are certain gems which bear almost the same types as the coins (e.g., of Ephesus and of Syracuse) and may therefore be taken to represent official seals. It is, however, to be noted that here as in the case of our bullae the gem types are never identical with those of the coins. Thus on the coins of Ephesus of the fifth century B.C. the stag is always represented in abbreviated form, while on the gem we have the entire figure.<sup>9</sup>

<sup>8</sup> F. H. Marshall, *Journ. Hellen. St.*, XXIX (1909), 166 f. On the παραφύλακες and Hadrian see my *Gesellschaft und Wirtschaft im römischen Kaiserreich* (1931), II, pp. 340 and 362. I owe the reference to the article of Marshall to the kindness of Prof. P. Wolters.

<sup>9</sup> On Selinus see above, p. 12, note 5; on Priene, Th. Wiegand und H. Schrader, *Priene* (1904), p. 429 (R. Zahn), cf. *Inschr. von Priene*, No. 356. One of the impressions bears the inscription στρά which may be the proper name of the magistrate or as Prof. Wolters suggests the abbreviation of the title στρατηγός. On Ephesus, H. Bulle, *Zeitschr. d. Münchener Altertumsvereins* (1903–1904), p. 3 and Pl., Nos. 14, 15. On

**B***The χρεοφύλακες and the record offices of the Seleucid Empire.*

This is not the place to discuss the problem of the record offices in the ancient world. Our information on this point is scanty and unevenly distributed. We know something about some periods and regions and almost nothing about some others. First and foremost, of course, we have to discriminate between the public archives for drawing up and keeping public documents and the offices for drawing up, registering, and keeping private documents of various sorts. In this paper I am concerned with the last sort exclusively. A special problem is the problem of land cadasters, or land registries, where houses, building lots, and various types of land were registered and all changes in their status (sales, mortgages, etc.) were noted in special books which probably in most cases were held open for consultation both by officials and private persons.

Our best information is that which is derived from inscriptions and literature concerning the Greek city-states and that which bears on Ptolemaic and Roman Egypt. Very little is known as regards Pharaonic Egypt and other oriental monarchies, though remains both of royal archives of public documents (Tell el Amarna, Boghaz-Keui, Assyria) and of offices where private documents were kept, especially of temple archives, have been repeatedly found. Most of what is known refers to Sumeria, Babylonia, and Assyria.

Still worse is our situation as regards the Seleucid Empire, the heir of Persia in the Near East. Here almost all is complete darkness. Our material is scanty and nobody has taken the trouble to collect it.<sup>1</sup>

Syracuse, A. Furtwängler, *Gemmen*, III, pp. 126 f.; I, Pls. 9, 49. Most of these references I owe to the kindness of Prof. P. Wolters, who is preparing a very interesting paper on two stamps of late Roman times (3d cent. A.D.) which were no doubt stamps of the priests of two temples of Smyrna. The whole question regarding stamps of more or less official character needs a careful investigation which cannot be undertaken here.

<sup>1</sup> The subject of Greek record offices has been treated by A. Wilhelm, "Ueber die öffentliche Aufzeichnung der Urkunden," *Beiträge z. griech. Inschriftenkunde* (1909), pp. 229 ff., and recently by E. Weiss, *Griechisches Privatrecht*, I (1923), 355 ff. (Begriff und Vorläufer des Archivwesens); cf. pp. 243 ff. (Das Publizitätsprinzip). In the same book the reader will find references to other modern works on the subject. Cf. the

It is not the aim of this paper to summarize what we know of the archives of the Greek city-states and to investigate the problem of the archives of the oriental monarchies in the various periods of their existence. My duty is to explain the data which we find on the official seals of the *χρεοφύλακες* of Orchoi. To that end, however, we must say a few words on the registry and record offices in the Greek world in the Hellenistic period.

It has been many times pointed out that the creation of real notary offices and archives for drawing up and registering private business documents of various types both in the Greek city-states and in Egypt was a phenomenon peculiar to the Hellenistic period. Precursors existed in the Greek cities of the classical period and probably in the oriental monarchies (of which last we know very little; see M. San Nicolò, *Excursus I* in this paper) but a real development of registry offices remained for the brisk business life of the Hellenistic period to achieve.

It is very probable that it was not only the interests of private business that prompted the organization of registry offices for private business documents and offices of notaries public to draw them up. Fiscal considerations were of more importance, and the request for registration was probably connected with the desire to collect in full the various duties and taxes which were levied upon business transactions. Such special taxes as those levied upon the buyers of land, houses, building lots, slaves, ships, etc., were the chief reason influencing the city administration to insist that such sales be registered or both registered and drawn up in a special public office, be it an *ἀρχεῖον*, or a *μνημονεῖον*, or a *χρεοφύλακιον*.

Some texts of ancient writers are quite explicit about it. Well known is the utterance of Theophrastus in his treatise περὶ συμβολαιῶν: ἔνιοι δὲ πρωγράφειν παρὰ τῇ ἀρχῇ πρὸ ἡμερῶν μὴ ἐλαττον ἡ ἐξήκοντα καθάπερ Ἀθήνησι, καὶ τὸν πριάμενον ἐκατοστὴν τιθέναι τῆς τιμῆς ἐπως . . . δικαίως ἐωνημένος φανερὸς ἡ τῷ τέλει. To a later period, but reflecting the general use of the Greek city-state belong the words of Dio Chrysostom (*Or.*, I, p. 234 Arnim): σκοτεῖτε δὲ ὅτι πάντες ἡγοῦνται κυριώτερα ταῦτα ἔχειν ὅσα ἀν δημοσίᾳ συμβάλλωσι διὰ τῶν τῆς πόλεως γεζαμμάτων· καὶ οὐκ ἔνι λυθῆναι τῶν οὕτω διψημένων

bibliography in our note 9. On the archives for state-documents and the registry offices for private documents in the Oriental monarchies see the excellent summary of B. Meissner, *Babylonien und Assyrien*, II (1925), 330 f., cf. I (1920), p. 120 and our *Excursus I* by M. San Nicolò. Cf. his recent book, *Beiträge zur Rechtsgeschichte im Bereich der Keilschriftlichen Rechtsquellen* (Oslo, 1931), pp. 145 ff.

ούδέν· οὐκ εἴ τις ὠνήσαιτο παρά του χωρίον ή πλοίον ή ἀνδράποδον· οὔτ' είτα δανείσειεν, οὔτ' ἀν οἰκέτην ἀφῇ τις ἐλεύθερον, οὔτ' ἀν δῷ τινι δωρεάν. A splendid illustration of the activity of a city record office may be found in a recently discovered inscription of Thasos (G. Daux, *Bull. de Corr. Hell.*, L (1926), pp. 226 ff., No. 3, 2d cent. A.D.): ἐπὶ Νικάδου τοῦ Ἀριστοδήμου τὸ β' ἄρχοντες εἴπον· τοὺς ἐκάστοτε μνήμονας παρέχειν τὰς βύβλους ἐπάναγκες τοῖς βουλομένοις διὰ τῶν δημοσίων χρηματίζειν λαμβάνοντας πενθερίου (*dowry*) μὲν ἐκάστου κατὰ τὸν νόμον<sup>2</sup> δ', μισθώσεως δὲ ή διαγραφῆς μισθώσεως ή ὡνῆς χωρὶς τῆς ἐξ ἐνεχυρασμοῦ ἀνά<sup>3</sup> α', τῶν ἄλλων γραφομένων προΐκα.<sup>2</sup> Compulsion was used to a certain extent in the matter of registration of business transactions, inasmuch as documents drawn up publicly (δημόσιοι χρηματίσμοι) or registered in the public archives (δημοσίωσις and ἔκμαρτύρωσις) were regarded more valid in case of lawsuits or other emergencies than documents drawn up privately (χειρόγραφα) and kept by private persons.

We can follow the same evolution in Ptolemaic Egypt. Private συγγραφοφύλακες who preserved the documents handed over to them by private people, an institution familiar both to the Greek city-states and to Ptolemaic Egypt, were gradually replaced by officers of the government, and their private (and public?) offices ceded their place to offices exclusively public, especially the γραφεῖα, or μνημονεῖα or ἀγορανομεῖα (see Preisigke, *Wörterbuch*, s. vv.) and the various archives, βιβλιοθῆκαι. Lack of space prevents me from making more explicit statements on this point. I must refer, however, to a recent document which is very characteristic in this regard, the excerpts from the royal διάγραμμα ἀνδραπόδων of about 200 B.C. (*P. Col.* 480) recently published by Professor W. L. Westermann.<sup>3</sup> The first paragraph of this royal order, of

<sup>2</sup> On the μνήμονες see Weiss, *op. cit.*, pp. 252 ff. and pp. 360 ff. Cf. E. Weiss, *Jahresh. des Oest. Inst.*, XVIII (1915), *Beibl.*, pp. 286 ff.; I. Tolstoi, *Μνήμονες*, Journ. of the Min. of Publ. Educ. of Russia, CCCLVII (1905), Sect. of Class. Phil., pp. 73 ff. (in Russian).

<sup>3</sup> W. L. Westermann, *Upon Slavery in Ptolemaic Egypt* (New York, 1929), especially pp. 10 ff. (on the καταγραφή). On the connection between the καταγραφή and the tax Westermann says: "The taxes on slave sales were collected as a percentage of the sale price contained in this document of record. The tax farmers, therefore, in the case of such a sale arranged between the parties interested in the transaction, exacted the tax and fees concurrently with the filing of the official record at the office of the agoranomus." The same happened at Orchoi in the office of the χρεοφύλακ. Cf. R. Taubenschlag, "Das Sklavenrecht im Rechte der Papyri," *Zeitschr. der Sav. St., Rom. Abt.*, L (1930), 140 and V. Arangio Ruiz, *Personae e famiglia nel diritto dei papiri* (1900). On κατα-

which the aim is partly fiscal (the collection of a heavy tax on the sale of slaves), runs as follows: διπραγματευόμενος τὴν ὥνην τῶν ἀνδραπόδων καὶ διαντιγραφεῖς πράξονται τῶν σωμάτων ὃν ἂν αἱ ὄνται ἐν τῶν ἀγορανόμων καταγράφωνται, etc. It is evident that the law implicitly prescribes that all the documents concerning the sale of a slave be registered in the office of the ἀγορανόμος. It is a pity that we do not know how the state handled unregistered contracts for the transfer of slaves, privately drawn up and privately kept. It seems as if the state cannot have taken them into account at all, at least as legally valid documents. Besides contracts registered with the ἀγορανόμοι the διάγραμμα takes into consideration exclusively auction sales as legally valid forms of sale. Thus as early as the second century B.C. registration of certain types of business transactions was practically compulsory in Ptolemaic Egypt.

Among the various city offices for the registration of documents concerning various business transactions, the χρεοφυλάκια loom very large in the Hellenistic and Roman periods, especially in Asia Minor. It may be that originally the χρεοφυλάκια were special offices for the registration of loans (Ps. Arist., *Oec.* II, 1347 b, 35: Χίοι δὲ νόμου δύντος αὐτοῖς ἀπογράφεοθαι τὰ χρέα εἰς δημόσιον), as Weiss suggests.<sup>4</sup> Later, no doubt, they became in many cities real offices for drawing up and registering all sorts of documents and business transactions. Let me quote a passage of the well-known Cretan treaty between Olus and Latus (*SGDI*, 5075, 39 ff.) to characterize the range of business transactions carried out through them: κύριον δ' ἔμεν τὸν Λάδ[πιον ἐν] Βολές[ντ]<sup>1</sup>

γραφή and διαγραφή in general see below, note 9. Cf. J. C. Naber, *Mnem.*, LV (1927), 188 f.

<sup>4</sup> The bibliography on the χρεοφυλάκια will be found in Weiss, *Gr. Privatrecht*, I, 408, note 182; cf. pp. 415 ff. The earliest inscriptions (from Amorgos—*IG*, XII, 7, 3; Kos—*GDI*, 3706; Neapolis in Thracia—A. Wilhelm, *Jahresh. d. Oest. Inst.*, XII (1909), 124 f.) belong to the 4th cent. B.C. In later times there seems to be a certain confusion in terminology between ἀρχεῖα, γραμματοφυλάκια and χρεοφυλάκια, R. Dareste, "Le χρεωφυλάκιον dans les cités grecques," *Bull. de Corr. hell.*, VI (1882), 241 ff., and *Nouvelles études d'histoire de droit*, 1902, pp. 187 ff., cf. R. Vagts, *Aphrodisias in Karien* (1920), p. 26. Apparently the general term is ἀρχεῖα (the public offices of the city in general and the archives in particular). A part of the ἀρχεῖα is the χρεοφυλάκιον. For the connection of the χρεοφυλάκια with loans I may quote the inscription of Aphrodisias of the early imperial period, a testament of a certain Adrastos (Th. Reinach, *Rev. d. Ét. Gr.*, XIX (1906), 243 ff., No. 142). In this inscription Adrastos enumerates his debtors and says, l. 28: Μάρκος Ἀν[τώνιος] Ἀπελλᾶς δοφείλει μοι διὰ χρεοφυλακίου, etc.

πορτὶ τὸν Βολόντιον καὶ τὸν Βολόντιον π[ορτὶ τὸν Δάτ]ιον ἐν Λατῶι καὶ [πωλίο]ντα δι[ὰ τ]ῷ χρεωφυλακ[η]ιῳ καὶ ὄνιδμενον καὶ δανι[ζοντα καὶ] δανιζόμεν[ο]ν καὶ τέλλ[α πάντα σ]υναλλ[άττον]τα κατὰ τὸς τὰς π[ό]-λι[ος νόμος] τὸς ἑκατέρη κει[μένο]ς [c] (cf. Ditt. *Syll.*, 3d ed., 712, 30; *SGDI*, 5149, 30).

How the registration of business documents was organized in the Seleucid Empire in the Hellenistic period was unknown until the recent discoveries in Mesopotamia, Babylonia, and the Susiane. The many inscriptions which mention the χρεοφυλάκια in Asia Minor are mostly of the Roman period. In Roman times all the χρεοφυλάκια were municipal.<sup>5</sup> Whether under the rule of the Seleucids and later of the Pergamene kings there existed in the Greek cities subject to those kings exclusively municipal registry offices or alongside these municipal institutions there were also royal χρεοφυλάκια we do not know. I will take up presently the question of the βυβλιοφυλάκιον of Sardis which no doubt was a royal institution and had nothing to do with the city of Sardis, provided the city had really any form of autonomy under the rule of the Seleucids.

I may mention, however, here in this connection a very curious little monument—a seal found by W. R. Paton under the floor of a Roman house at Myndus in Caria, together with two other clay seals probably also of the Hellenistic period (see our Pl. VII, 5). The diameter of the seal (one inch) coincides exactly with

<sup>5</sup> The χρεοφυλάκια of Asia Minor are known from many inscriptions. It seems to have been an institution which existed in the imperial period in almost all the larger cities at least of the province of Asia (including Phrygia). There exists no full collection of evidence on the subject, though lists of δρχεία, γραμματοφυλάκια and χρεοφυλάκια have been given frequently by various scholars: V. Chapot, *La province romaine d'Asie* (1904), pp. 247 f.; W. Liebenam, *Städteverwaltung im römischen Kaiserreiche* (1900), pp. 290 and 551; G. Cardinali, *Il regno di Pergamo* (1906), p. 271, note 1; H. Stemler, *Die griechischen Grabinschriften Kleinasiens* (1909), pp. 60 ff.; B. Laum, *Stiftungen in der griechischen und römischen Antike*, I (1914), p. 129, note 3; R. Vagts, *Aphrodisias in Karien* (1920), p. 26; J. Keil and A. Wilhelm, *Jahresh. d. Oest. Inst.*, XVIII (1915), Beibl. p. 6 (Istanos in Cilicia, "collegium" of four χρεοφύλακες). It is hardly probable that it was the Romans who first created record offices in all the larger urban centers of the Eastern part of the Roman Empire. At least one inscription of Asia Minor, that of Nysa, recently republished (with a photographic reproduction) by K. Kuruniotes, *Ἀρχαιολογικὸν Δελτίον*, VI (1920–1921), p. 82, Fig. 66, belongs according to Kuruniotes to the Hellenistic period. It is the building inscription of a χρεοφύλακιον].

that of our chreophylakes seals. The impression shows the figure of Apollo standing l., holding out bow in r. hand and resting l. elbow on a fluted Ionic column. Inscription: to the r. and l. of the head—Α—ΝΩ, to the r. of the figure from above—ΚΙΛΒΙΑΝΩΝ i.e. ἄνω Κιλβιανῶν. In the catalogue of coins of Lydia Mr. Head has pointed out that it is the earliest existing monument of the Kilbiani Superiores and that the figure resembles in style some of the tetradrachms of Seleucus II.

I may add that the similarity of this Asia Minor seal-impression with the single clay seals of Orchoi is striking and that we may assume that the seal of the Kilbiani was used to seal a document in the office of a χρεοφύλακες or βυβλιοφύλακες of the territory of the Κιλβιανοί, perhaps as early as the time of Seleucus II or a little later, in the time of Seleucus IV. In any case our monument gives very interesting evidence of the existence in the territory of the Κιλβιανοί, which probably was a royal estate, of a χρεοφύλακιον or βυβλιοφύλακιον at the time of the Seleucid domination over this part of Asia Minor. We may suppose that the complete inscription of the seal was either χρεοφύλακικός τῶν] ἄνω Κιλβιανῶν or βυβλιοφύλακικός τῶν] ἄνω Κιλβιανῶν. Note that here again we have a type similar to, but not identical with, the coins.<sup>6</sup>

Quite recently references to χρεοφύλακες were found in another part of the Seleucid Empire: in Mesopotamia, Babylonia, and the Susiane. A few years ago Haussouiller and Cumont (*C. r. de l'Acad.* [1922], p. 256, and *Rev. hist. de droit* [1923], p. 518, 1; Cumont, *Mem. de la Miss. Arch. de Perse*, XX [1928], 84 ff., and *C. r. de l'Acad.* [1931], pp. 278 ff.) published an inscription (liberation of a slave) found at Susa (Seleukis on the Eulaios). Here the ἐπιστάτης χρεοφύλακιον appears as the first witness. The in-

<sup>6</sup> The seal of the Κιλβιανοί has been published by H. B. Walters, *Catalogue of the Terracottas in . . . the British Museum* (1903), p. 445, No. E114. On the Κιλβιανοί see Pauly-Wissowa-Kroll, *R.-E.*, XI, 383. It is very tempting to compare the seal with the mention of the βυβλιοφύλακες at Sardis which will be discussed later in this chapter. If the territory of the Κιλβιανοί was an estate of the Seleucids the existence of a βυβλιοφύλακιον in this place seems to be very probable: its duty would have been to register all the changes in the land property of the kings in this place. In a letter of Aug. 28, 1930, Dr. L. I. Forsdyke makes about the clay seals E96, E97 and E114 and their use the following remark: "As to the backs, E97 and E114 bear definite marks of (I should say) papyrus on fairly flat surfaces. E96 is uneven and shows criss-cross marking of coarser grain, like canvas, with an open string-groove in the middle. All three have string-holes pierced right through the clay."

scription belongs probably to the time of Antiochus IV Epiphanes. In one of the parchments found by Cumont at Dura, which is a fragment of a register of documents of 195 B.C. and was probably made and kept in the χρηματισ्तήριον of Dura-Europos, first among the witnesses appears probably the χρεοφύλαξ, no doubt the man who was the head of the χρηματισ्तήριον and the author of our document.<sup>7</sup> It is probable that one or two χρεοφύλακες bullae were found at Seleucia.<sup>8a</sup> Furthermore a γραμματοφυλακεῖον is mentioned at Jerusalem (*Fl. Jos., Bell. Iud.*, II, 427) and I see no reason to regard it with Weiss as a Greek term for a local Jewish institution. As at Orchoi, it was no doubt a creation of the Seleucids.<sup>8</sup> And finally we have our bullae and seal-impressions. Note that all these texts belong to the Hellenistic, none to the Parthian or Roman, period.

If we considered exclusively the parchment of Dura and the inscription of Susa, we might be in doubt whether the χρεοφύλακες of these places was a municipal or a state institution. We know very little of the amount of autonomy enjoyed by these cities under the Seleucids. The seals of Orchoi decide this question once and for all. The χρεοφύλακες of Orchoi who have the right to use the official seal were certainly crown officers and were acting in the name of the king, more or less like the agoranomoi of Egypt. Since there is no reason to suppose that Orchoi with its large Greek population had less autonomy than Susa and perhaps Dura-Europos also, we may assume that at these places too the χρεοφύλακες was a state institution and the χρεοφύλαξ a crown officer.

What do we learn of the duties and privileges of the χρεοφύλακες of Orchoi from their seals? In my Introduction I divided the

<sup>7</sup> On the χρεοφύλακες in connection with the parchments of Dura see F. Cumont, *Fouilles de Doura-Europos* (1926), pp. 286 ff.; P. Koschaker, *Z. d. Sav. St.*, Rom. Abt., XLVI (1926), 294 ff.; *id.*, *Orient. Literaturz.*, 1930, pp. 169 f. The χρεοφύλαξ of Dura who appears among the witnesses reminds one of the Babylonian scribes and "seal-cutters" who also played an important part among the witnesses of certain documents of the Hammurabi period (cf. Introduction, note 14).

<sup>8a</sup> See below, pp. 105 f., Nos. 18, 19. One of these bullae testifies that the operation performed by the χρεοφύλαξ was registration of the document (*καταγραφή*).

<sup>8</sup> The text of Josephus is quoted by Daresse (see note 4), Thalheim (Pauly-Wissowa, *R.-E.*, VI, 2448) and Weiss (*Gr. Privatr.*, I, p. 408, n. 182) as mentioning the χρεοφύλακες of Jerusalem. In fact the text describes the burning down of a γραμματοφυλακεῖον there in which the contracts of loans were kept.

bullae into four classes: some of them bear seal-impressions of exclusively private seals, no doubt those of the transacting parties and their witnesses; some bear impressions of private seals and in addition the impression of the official seal of the *χρεοφύλαξ*; some others besides the impressions of private seals and those of the *χρεοφύλακες* show impressions of seals of tax officers or tax farmers; and finally there are some bullae which are stamped by tax officers or tax collectors only.

This proves that only a minority of the documents kept inside the clay bullae were officially registered. We cannot assume that documents not stamped by the *χρεοφύλακες* were officially registered. It is natural to think that since a special fee was probably paid for registration (and perhaps for the drawing up of the document in the office of the *χρεοφύλαξ*) the seal of the *χρεοφύλαξ* attested not only that the fee was paid but that the document was registered. It is hardly possible to assume that as at Thasos a fee was paid for the registration of some transactions only, the rest being free, and that only those documents for which the fee was paid bore the stamp of the *χρεοφύλαξ*.<sup>9</sup>

<sup>9</sup> See above, note 7a, on the bulla from Seleucia with the stamp bearing the inscription *καταγραφῆ[ς]*.

In Egypt a certain fee was taken for stamping the documents in the *γραφεῖον* with the official seal (*P. Ryl.* 160, 6, A.D. 28–29: καὶ ἐπιτέταχα τοῖς μαρτύροις γράφειν καὶ τῷ πρὸς τὸ γραφεῖον χαράξαντι ἀποδοῦνται. Cf. the other texts quoted in Preisigke, *Wörterb.*, s.v. *χαράσσειν*). I think Preisigke is right in interpreting the passage of *P. Ryl.* 160 and of other papyri as mentioning the payment of a fee to the officer who impressed the official seal on the contract of sale. Cf. the seal-impressions found in Egypt and mentioned above, pp. 13–14, and note 5 to section A of this chapter. The technical term for registration of documents in the *γραφεῖα* of the villages and the *ἀγορανομεῖα* of the cities was in the Ptolemaic times *καταγράφειν*, or *ἀναγράφειν*, or *ἀναφέρειν*. The officer who stood at the head of the *γραφεῖον* was called πρός τῷ γραφεῖῳ. Cf. Weiss, *Gr. Privatr.*, I, p. 417, note 221a; von Woess, *Untersuchungen über das Urkundenwesen und den Publizitätsschutz im römischen Aegypten* (1924), pp. 10 ff.; E. Schönbauer, *Beiträge zur Geschichte des Liegenschaftsrechtes im Altertum* (1924), pp. 7 ff.; W. L. Westermann, *Upon Slavery in Ptolemaic Egypt* (1930), pp. 9 ff. Cf. on the whole problem the learned articles of J. C. Naber, *Observatiunculae ad papyros iuridicae*, paragraphs 1–10, περὶ πτωμάτων, *Mnemosyne*, LIII (1925), pp. 417 ff., and paragraphs 11 ff., περὶ χαραγμάτων, LIV (1926), pp. 42 ff.; LV (1927), pp. 187 ff., which remained unknown to Westermann. Whether his terminology is right or wrong cannot be discussed here. His collection of material, however, is very useful. In dealing with the text of *P. Ryl.* 160 and the other papyri which repeat the same for-

It is a pity that all of the documents kept inside the bullae have perished. If we had them we should know what kinds of documents were registered and what kinds were not, and whether for some sorts of business transactions registration was compulsory and for some others elective. However, even without the help of the documents we may guess at it.

It is interesting to note that the most instructive set of bullae (Nos. 16, 19–24, 42, and 48) bears alongside the χρεοφύλαξ stamp two other stamps: one testifying to the payment of a general sales tax—ἐπώνιον, the other to the payment of a special tax—ἀνδραπόδων or ἀνδραποδικόν (τέλος) or ἀνδραποδική (ώνη). It is hard to believe that the latter tax was the fee paid by the slave owner for the right to own a slave, a real slave tax. In that case we should not be able to understand the appearance of the χρεοφύλαξ stamp on the bulla. Now in the Ptolemaic διάγραμμα of about 200 B.C., quoted above, which deals with a tax on the sale of slaves, the name of the tax is about the same as on the bullae. The prescript, or title, of the διάγραμμα is: ἐκ τοῦ διαγράμματος τῶν ἀνδραπόδων. The tax therefore was called no doubt ἀνδραπόδων or ἀνδραποδικόν. It is interesting to note that besides the tax ἀνδραπόδων another tax was levied in Egypt from those who sold their slaves with the help of the ἀγορανόμοι and not by auction. It was a tax called ἑκατοστή, a tax of 1 per cent. We will see later in this paper that this tax is what at Athens and elsewhere was called ἐπώνιον—a general sales tax. Now the same tax appears on the bullae alongside the slave tax. We must not forget that both the bullae and the διάγραμμα are strictly contemporary monuments, dating from about 200 B.C. or not long thereafter.

How are we to explain the fact that on the bullae the χρεοφύλαξ stamp is accompanied by the two tax stamps? We may refer again to the διάγραμμα of Egypt for the connection. I have stated above that the διάγραμμα takes it for granted that all the slave

mula (*Mnem.*, LIII (1925), p. 417, note 3) Naber does not take into account the opinion of Preisigke. The controversy about the respective meaning of καταγραφή and ἀναγραφή, on which see Westermann, *op. cit.*, does not bear on the interpretation of the bullae. Whether in the case of our bullae the registration implied a "Publizitätsschutz" or not cannot be learned from the bullae. I may call attention to the important inscription first quoted by B. Keil, *Hermes*, XLIII (1903), 545 ff., and now republished in emended form in *SEG*, IV, 194. Whether the payment for sealing is identical with the payment γραφείου in various Ptolemaic and Roman documents of Egypt or not is difficult to say. On the γραφεῖον fee see Westermann, *op. cit.*, pp. 13, 17, 19, 26.

sales are registered with the agoranomoi. It is evident that such registration was compulsory for all legal transactions in slaves. The registration was no doubt connected with the payment of a special registration fee and certainly depended on the payment of the two taxes previous to the registration.<sup>10</sup> There can be no doubt, therefore, that the procedure which left its traces on the bullae was the same. A contract of sale was either drawn up or presented at the office of the χρεοφύλαξ. After payment of two sales taxes and of the registration fee the sale was registered by the χρεοφύλαξ in the same way that is indicated by the abstracts contained in two parchments of Dura, Nos. I and II. The parchment or papyrus which contained the deed was then inclosed in a clay bulla which was sealed or stamped not only by the parties and witnesses but by the χρεοφύλαξ and the tax officers or contractors. After this the document was ready to be kept either in the state or city χρηματιστήριον or in the temple archives.<sup>11</sup>

If my suggestion as regards the two types of stamps on the bullae be accepted it will appear that they correspond pretty closely to the two kinds of official dockets upon various private contracts in Ptolemaic and Roman Egypt. One, which Naber calls χάραγμα, is the registry docket and corresponds to the chreophylax seal on the Orchanian bullae, the other, which Naber calls πτῶμα, noted the payment of the sale or transfer tax (έγκυκλιον) and corresponds to the two stamps of our bullae which I call tax stamps, that of the ἀνδραποδική and that of the ἐπώνιον. To which of our stamps the flat stamp corresponds which is sometimes found on the back of the Ptolemaic and Roman documents in Egypt is hard to decide and does not concern us here. The question may be taken up again by a competent scholar in the light of the Orchanian bullae.<sup>12</sup>

<sup>10</sup> Such a procedure was not confined in Egypt in the Ptolemaic period to the slave sales only. It was used in other sales as well, the payment of the έγκυκλιον being closely connected with the registration of the document; see von Woess, *Untersuchungen über das Urkundenwesen und den Publizitätschutz im römischen Aegypten*, pp. 13 ff.

<sup>11</sup> It is almost exactly the procedure used in Egypt in the γραφεῖα and ἀγρανομεῖα as reconstructed by von Woess, *op. cit.*, pp. 10 ff. χρηματιστήριον as a term which means "record-office" (equivalent to ἀρχεῖον, γραμματοφυλάκιον, and χρεοφυλάκιον) occurs very rarely (the evidence is collected in Cumont, *Fouilles de Doura-Europos*, p. 307). The use of it seems to be confined, outside of Mesopotamia, to the Hellenistic period.

<sup>12</sup> Cf. the articles of Naber quoted in our note 9 to this chapter. He deals with the stamps on the back of some of the Egyptian documents

It is hard to believe that it was by means of the extant διάγραμμα that the tax on slave sales was introduced in Egypt. It is more probable that the διάγραμμα of about 200 B.C. represented a remodeling and readjusting of an earlier order by which the tax was first introduced there. Westermann thinks that the tax existed in Egypt from the time of Cleomenes or Ptolemy Soter. No evidence supports this hypothesis. On the other hand we have a fragment of a royal order, *P. Grad.* 1, which belongs to the time of Philadelphus (probably 267 B.C.) and no doubt deals with the tax on the sales of slaves. The fragment is a puzzle. No one of the explanations of it suggested by various scholars satisfies me.<sup>18</sup> It

in *Mnem.*, LIII (1925), 418 ff., especially pp. 419, 420, and notes 12 and 1. The discussion of the problem by most of the modern scholars quoted in our note 9 to chap. I, remained, however, unknown to the author. I note also that most of what Naber says in his first article on the collection of the taxes in Egypt by contractors and tax-officers may be found in my *Staatspacht* (which remained unknown to him) and is now almost a commonplace. On one of the bullae of Seleucia (No. 13; cf. *Excursus III*, p. 105) the tax-stamp bears alongside the name of the ἀνδραποδική and the date the name of another tax: εἰσαγωγή[ῆς]. It is evident that this is the tax paid for an imported slave, a substitute for the ἔπωντος paid for home-sold slaves. A special chapter is devoted to slaves in the Palmyra law (Ch. I, Pal. 1. 2-6; Gr. 1. 1-18; cf. the regulations about the prostitutes, Pal. 1. 47-52, Gr. 1. 75-79 and Pal. 1. 125-128, Gr. in bad state). We see that at Palmyra the tax on imported slaves (dr. 22) was much higher than that paid for the home-sold ones (dr. 12). Εἰσαγωγή is the common name for the import tax in the Ptolemaic Papyri, see *P. Cairo Zen.*, III, 59326 bis, verso, col. I (a donkey or horse); *ibid.*, 59373 (wine, a ἑκατόστη being paid in addition); *P. Lille* 29 I, 13; Mitteis, *Chr.*, 369; Meyer, *Pap. Jur.* 71 (slaves). I may add in this connection that an import-duty existed in Babylonia from time immemorial if we may believe the statement of Ps. Aristot., *Oec.*, II, 34, on Antimenes the Rhodian, the finance-assistant of Alexander the Great who allegedly made the ancient Babylonian law (νόμου δύτος ἐν Βαβυλωνίᾳ παλαιοῦ δεκάτην εἶναι τῶν ἔξαγομένων) effective again and collected in this way large sums of money. A. Andreades (*Bull. de Corr. Hell.*, LIII [1929], p. 2) regards the import duty of Antimenes as a duty paid at a "douane intérieure." The comparison with what we know of customs duties at Babylon in Parthian times (*Yale Dura Exped. Prelim. Rep.*, II, pp. 156 ff.) makes this view probable. In all probability the Babylonian εἰσαγωγή reintroduced by Antimenes was later collected by all the successors of Alexander both at Babylon and at Seleucia.

<sup>18</sup> The status of the controversy is summarized and a new hypothesis added by Westermann, *Upon Slavery . . .*, pp. 33 ff. He discusses also *P. Hib.* 29 and the passage of Ps. Aristeas (37) referred to below. Cf.

would be my suggestion that the order of which it is a fragment was issued in connection with the introduction of the tax on sales of slaves. It seems likely that the tax was first introduced in Egypt when foreign slaves—prisoners of war ( $\alphaἰχμάλωτοι$ )—appeared in masses on the Alexandrian slave market.<sup>14</sup> That order prescribes, in my opinion, the registration of all the sales of  $\alphaἰχμάλωτοι$  made before its publication, by which a tax on slave sales was introduced and regulated. The well-known reference to the Jewish slaves in the letter of Ps. Aristeas (37) reflects this measure of Ptolemy Philadelphus. Many Jewish slaves might have appeared on the Alexandrian market after or during the so-called first Syrian war of Ptolemy Philadelphus. It seems probable that a little later a detail of that  $\deltaιάγραμμα$  was regulated by a special order of which a fragment is *P. Hib.* 29 (about 265 B.C.).

Thus in Egypt the tax on the sale of slaves was certainly not a new measure first introduced at about 200 B.C. How was it in the Seleucid Empire? Transactions in slaves were very common in Babylonia from the earliest times. All sorts of slavery existed in Babylonia and all sorts of business transactions were connected with the institution of slavery.<sup>15</sup> Whether a tax on the sale of

Wilcken, *Arch. f. Pap.*, IX (1930), 252 ff. and V. Ehrenberg, *Hermes*, LXV (1930), 345 ff.

<sup>14</sup> Note that *P. Grad.* 1 was written only a few years after the end of the first Syrian war. The Syrian war was ended successfully by Philadelphus and during this war no doubt large quantities of slaves were imported into Egypt and sold there both by the king and by his officers and soldiers, as well as by private dealers who bought the slaves from the victors on the spot. This influx of slaves no doubt required special attention and was handled in his own way by the "genius of fiscality" that Philadelphus certainly was. On the first Syrian war see W. W. Tarn, *Cambridge Anc. Hist.*, VII, 699 ff.; W. Otto, "Beiträge zur Seleukidengeschichte des 3 Jahrh. v. Chr.", *Abh. der Bayer. Ak., philos. u. hist. Kl.*, XXXIV (1928), 1, pp. 3 ff. I am inclined to accept on the whole the chronology of the events advocated by Prof. Otto, especially his dating of the great festival of Philadelphus described by Callixenus. He thinks that the gorgeous procession marked the end of the war (271/70 B.C.). For an earlier date of the penteteris and a different chronology of some of the events see W. W. Tarn, *Hermes*, LVI (1930), 446 ff.

<sup>15</sup> The situation of slaves in Babylonia and Assyria has been given full and masterly treatment by B. Meissner, *Babylonien und Assyrien* (passim). On the traffic in slaves see M. Rostovtzeff and C. B. Welles on Dura Parchment X, *Yale Classical Studies*, II (1931), pp. 62 ff. Cf. P. Koschaker, *Ueber einige Griechische Rechtsurkunden aus den Oestlichen Randgebiete des Hellenismus*, Abh. d. Sächs. Ges., XLII (1931),

slaves existed in Babylonia before the Hellenistic period or not I do not know (see *Excursus I*). In the Babylonian contracts under which slaves were sold the tax is not mentioned. And it is not known whether there was such a tax under the early Seleucids. It may be an accident that with the time of Antiochus III a continuous set of bullae which testify to the slave-sale tax at Orchoi begins. However, I am inclined to explain this fact as due to something other than accident. And it is not by accident that the regulation of the slave-sale tax is so similar in Egypt and in Babylonia.

It might have been Seleucus I or Antiochus I who first introduced the tax and regulated it according to the example set by Ptolemy Philadelphus in Egypt. However, I regard it as probable that Antiochus III introduced some new devices in the matter of slave sales. We know how much he was in need of money and how earnestly he endeavored to make Babylonia a center of Greek life. The earliest bulla from Orchoi with the mention of the slave tax is dated Sel. 92—220 b.c. It is the year when the oriental expeditions of Antiochus III began. Antiochus III himself remained in Mesopotamia after 220 b.c. After the victory over Molon he stayed at Seleucia and no doubt in Babylonia. He was in bitter need of money to pay his soldiers. Was it not natural for him to set a heavier tax upon the traffic in slaves if one of the results of his victories was an ample supply of slaves in the Babylonian market? On the other hand, his relations to Egypt were close and the interchange of civil and military officers between the two lands an everyday matter. It would have been very natural for Antiochus to regulate the collection of the slave tax on Egyptian patterns.<sup>16</sup>

No. 1, pp. 2 ff. and pp. 68 ff.; and M. San Nicolò, *Ein babylonischer Sklavenkaufvertrag aus der Zeit Alexanders d. Grossen*, Charisteria Alois Rzach . . . dargebracht (1930), pp. 163 ff. The evidence on the prices of slaves in Babylonia in the Hellenistic period has been recently collected by Fr. Heichelheim, *Wirtschaftliche Schwankungen der Zeit von Alexander bis Augustus* (1930), pp. 86 ff., and p. 112, table III.

<sup>16</sup> Cf. below, *Excursus III*, on the bullae of Seleucia Nos. 13–15. The only dated bulla from Seleucia with the ἀνδραποδίκη stamp bears the date 190–189 b.c. On the reign of Antiochus III see W. W. Tarn in *Cambridge Anc. Hist.*, VII, 723 ff., and my chapter Syria and the East, *ibid.*, p. 181, and the bibliographies to these two chapters. Note that the famous episode of Hermeias' paying the army of Antiochus III out of his own pocket belongs to the end of the expedition of Antiochus III against Molon (220 b.c.). While not mentioned under the early Seleucids, a tax on the sale of slaves is well known in Syria in later times. As

It appears, then, that among the business transactions for which registration was compulsory were contracts of sale which concerned slaves. Have we any information on other contracts for which registration was compulsory? The bullae are silent on this subject. The stamps of the salt tax and of the ship tax appear on different types of bullae, but are not accompanied by inscribed *χρεοφύλακες* stamps. We will deal with them later in this paper. The only tax which appears alongside the *χρεοφύλακες* stamps is the *ἐπώνιον*, which occurs, as we have seen, on some bullae alongside the slave tax, on some others, perhaps, alone and independently. Such are No. 25 of the time of Antiochus III (198 B.C.; cf. No. 17, 220 B.C.) and No. 57 of the time of Demetrius II (146 B.C.). What kind of contracts these bullae contained is impossible to say. We shall see in the next paragraph that a general sales tax was paid upon sales of land, of slaves, of public property, of priesthoods, upon tax farming, etc.

It would be very natural to expect sales of land to be registered by the *χρεοφύλακες* and the registration to be, if not compulsory, at least in common use. However, we have not the right to suggest that the *ἐπώνιον* tax marked on our bullae refers to sales of land and not to sales of any other kind. I may mention in this connection the impression of the seal of the bybliophylakes No. 79, probably of the early Seleucid period. Was the bybliophylax the predecessor of the *χρεοφύλακες* at Orchoi, or did the two offices exist parallel to each other? I have no satisfactory answer to this query.

I may, however, draw the attention of the reader of this paper to the fact that a royal bybliophylax is known to us from an inscription of Didyma near Miletus of the time of Antiochus II. It is a well-known document which I have dealt with repeatedly. It contains the deed by which the purchase of land by Laodice from

I will point out later, the *νέμος τελωνικός* of Palmyra gives a very typical enumeration of taxes levied by the various states into which the great Seleucid Empire gradually disintegrated. The first place in the *νέμος τελωνικός* of Palmyra is occupied by the tax on the import and export of slaves and by the tax on the sale of slaves inside of Palmyra (for the Greek text, which is very badly preserved, see Dittenberger, *OGIS*, 629, ll. 19–24; the better preserved Aramaic version has been recently translated by J. B. Chabot, *Choix d'inscriptions de Palmyre* (1922); the paragraphs in question will be found on p. 26). For the slaves sold at Palmyra a uniform tax is paid regardless of their quality and price: for those recently imported, 12 den.; for the "veterans," 10. The import-tax is 22 den. and the export-tax 12. Cf. Chabot, *ibid.*, p. 36; Dittenberger, *OGIS*, 629, ll. 121 ff.

Antiochus II was regulated.<sup>17</sup> In the inscription we read an order of the king which runs as follows (Milet, *Erg. d. Ausgr.*, VI, 36, l. 13 ff.): ἐπεστά[λ] καμεν δὲ καὶ Τιμοξένω τῷ βιβλιοφύλακι καταχω[ρί]σαι τὴν ὄνην καὶ τὸν περιορισμὸν εἰς τὰς βασιλικὰς γραφὰς τὰς ἐν Σάρδεσι καθάπερ δὲ βασιλεὺς γέγραφ[εν] (cf. Ditt., *OGIS*, 225, 24: καὶ τὴν ὄνην ἀναγράψαι εἰς τὰς βασιλικὰς γραφὰς). The explanation of this text presents great difficulties. What does Antiochus mean by βασιλικαὶ γραφαὶ? Registers of all sorts of public and private documents kept in the royal bybliophylakion by the record officers in royal service, or a special cadaster, a "Grundbuch," of royal lands kept by a special record officer? I am inclined to assume the second as a more probable solution of the problem. In this case the office of Sardis was more or less similar to that of the keepers of the Egyptian βιβλιοθήκη ἔγκτήσεων, with the important difference, however, that the βιβλιοθήκη ἔγκτήσεων was an institution for keeping in evidence the changes in private land-ownership in Egypt in general while the officer of Antiochus II cared exclusively for the royal land. Note that in Egypt in Roman times the βιβλιοφυλάκια were confined to the registration of property in land (*P. Lips. Inv.* 508; Mitteis-Wilcken, *Chr.*, II, 2, No. 196) and slaves.

If that was so in Sardis, and the βιβλιοφύλακες of the Seleucid Empire were neither the predecessors of the χρεοφύλακες nor the same officials under another name, we may explain the official seal of the βιβλιοφύλαξ of Orchoi in the following way. Alongside the χρεοφυλάκιον, perhaps created earlier than the χρεοφυλάκιον, there existed at Orchoi a βιβλιοφυλάκιον of which the activity was confined to keeping in evidence the royal estates in Babylonia. I remind the reader that even our scanty information on Seleucid Babylonia gives us certain evidence on the various deeds which concerned the royal property there. The document which was sealed with the seal of the βιβλιοφύλαξ was perhaps such a deed: a purchase or grant of royal land, or something similar.<sup>18</sup>

Still more puzzling are the bullae with the stamps of the

<sup>17</sup> M. Rostowzew, *Studien zur Geschichte des römischen Kolonates* (1910), pp. 248 ff.; *id.*, *Cambridge Anc. Hist.*, VII, 167; W. L. Westermann, "Land registers of W. Asia under the Seleucids," *Class. Phil.*, XVI (1921), 12; E. Weiss, *Gr. Privatr.*, pp. 406 ff. The βιβλιοφυλάκιον of Soli (Cyprus) *IGRR*, III, 930, is probably but another term for what in other places was called ἀρχεῖον or γραμματοφυλάκιον or χρεοφυλάκιον.

<sup>18</sup> See my remarks in *Cambridge Anc. Hist.*, VII, 188; Lehmann-Haupt, *Zeitschr. f. Assyriol.*, VII, 330 ff.; W. Otto, *Beiträge zur Seleukidengeschichte*, p. 72, note 3. The identical seal appears on a bulla from Seleucia; see below, *Excursus III*, No. 17.

chreophylakes and without any mention of any tax. Among the chreophylakes bullae and single clay impressions such examples form a large majority. What kind of documents did these bullae contain? The only explanation which I have to suggest is as follows. Compulsory registration existed for some few types of business transactions, but most of the transactions were free from any such compulsion. Nevertheless, as registration (and perhaps drawing up the contract) in the *χρεοφυλάκια* or *χρηματιστήρια* meant an increase of safety, many (though not so many as we should expect) recurred to it. The majority of the Orchenoi, however, both Greeks and natives, never got used to this new Greek fashion and deposited their documents inclosed in a bulla and sealed by their own private seals and the seals of their witnesses in the temple archives as they had been accustomed to do for centuries without caring very much for a registration of the documents with the Greek record officer of the kings. In drawing up the documents, either in Greek or in Aramaic, they were probably helped by the temple scribes, who sometimes impressed their own stamp alongside the stamps of the witnesses on the bulla.

Another suggestion may be also considered. We may regard the chreophylakes stamps as equivalent, not to the Egyptian *χάραγμα* according to the terminology of Naber (see nn. 9 and 12), but to the Egyptian *πτῶμα*; i.e., the note on the payment of the *ἔγκυκλιον*. In this case the chreophylakes stamp alone will testify to the same fact to which the combination of the chreophylakes stamp and the eponion stamp on some of the bullae testifies; i.e., to the payment of the sale and contract tax, the Seleucid eponion, which as we shall see later correspond to the Ptolemaic *ἔγκυκλιον*. I hesitate, however, to insist upon this last suggestion, since should we accept it we shall be at a loss to explain the combination of the two stamps.

What have we learned from the bullae for the history and practice of the registration of documents in the Seleucid Empire? A good deal, I may say. It appears very probable that in Asia Minor the Seleucids found in many of the allied and subject cities well-organized offices of chreophylakes who helped the citizens to draw up their business documents and registered them in the *χρεοφυλάκιον* or *χρηματιστήριον* where they had their residence. The form of this registration is illustrated by the *καταχωρισμοί* of the Egyptian agoranomoi and by the two Dura Parchments I and II.<sup>19</sup> It seems probable that on the pattern of these city-

<sup>19</sup> Von Woess, *Urkundenwesen und Publizitätsschutz im römischen Aegypten* (1924), pp. 10 ff., 44 f., 53 f.; P. Koschaker, *Orient. Literaturz.*, 1930, p. 170, and the bibliography quoted in note 9.

chreophylakia the Seleucids organized a set of royal chreophylakia, separate and distinct from the bybliophylakia, which latter were confined to keeping in evidence the vast domains of the kings, their royal land. The organization of these chreophylakia was no doubt dictated by the necessity for efficient collection of new taxes introduced by the Seleucids. We know by chance of the tax on slave sales. How many others of the same kind had been introduced by the Seleucids it is impossible to say.

Whether the royal chreophylakia were confined to the cities which like Dura and Seleucis on the Eulaeus were founded by the Seleucids (I think that Hellenized Orchoi belong to this class) or were typical of all the subject cities of the Seleucid Empire (including some ancient Greek cities of Asia Minor) we cannot tell. I regard the last as more probable, since it was probably in all the subject cities that the Seleucids collected their taxes. If a record office existed in Jerusalem, they certainly existed in the many subject cities of Mesopotamia and Syria and in the cities of Phoenicia, Coelesyria, and Palestine later acquired by the Seleucids.<sup>20</sup>

In the royal chreophylakia the registration of most of the documents was elective, while for some types it was practically compulsory. All sorts of documents, however, were registered. The official seal of the chreophylax with the portrait of the king or one of the familiar royal symbols was regarded probably by both Greeks and natives in the Seleucid cities as a valuable protection of the rights acquired by means of these documents. A glimpse into the range of business transactions registered with the chreophylakes is yielded by Dura Parchment II. The fragmentary parchment still contains abstracts of the following deeds: purchase of a piece of land, loan under security (? mention of slaves), another deed of which the nature remains doubtful, perhaps a loan under security combined with an agreement as regards some questions connected with inheritance, and a third loan under security which is a disguised contract of service like Dura Parchment X mentioned above. Whether the royal *χρεοφυλάκια* were taken over by the Parthians or not we cannot tell. It is, however, typical that all the seals of the chreophylakes belong

<sup>20</sup> What Polybius, XXVI, 10, says about Antiochus IV and his democratic tendencies, especially about his functioning as an agoranomos and "giving hearing to controversies which arose from contracts concluded on the market" (*διήκους τῶν κατὰ τὴν ἀγορὰν γινομένων συναλλαγμάτων*) refers to the juridical activities of the agoranomoi. It does not prevent us from assuming that Antiochus also had a royal *χρεοφυλάκιον* or *χρηματιστήριον*.

to the Seleucid period and that all the references to this office in the inscriptions and parchments are from Mesopotamia, Babylonia, and Susiane. We may learn more on this subject from further finds, especially in Dura and Seleucia.

## C

*The Taxes.*

Beside the chreophylakes stamps many of the bullae, as I have stated above, bear impressions of peculiar seals with Greek inscriptions and sometimes the symbol of the Seleucids—an anchor or a half anchor. All the inscriptions mention the name of a tax (in genitive) and add the date and the place (in genitive). Four taxes are mentioned: ἀνδραπόδων, or ἀνδραποδικόν (sc. τέλος), or ἀνδραποδική (sc. ὥνη); ἐπώνιον; ἀλική (sc. ὥνη); and πλοίων Εύφρατου.

The new evidence found in the bullae as regards the taxes which were levied in Babylonia in the second century B.C. is very interesting and important. It is well known how scanty is our information as regards the Seleucid system of taxation. I have collected the little we know about it in my *Staatspacht* and later summed up (with some additions) what was said in the *Staatspacht* in Volume VII of the *Cambridge Ancient History*.<sup>1</sup>

I must, however, repeat here some of my previous statements on this subject and add some new considerations, especially as regards a well-known document of which the contents are closely connected with the data of the Orchonian bullae. I refer to the so-called Tariff of Palmyra.<sup>2</sup> This document may seem to have no

<sup>1</sup> M. Rostowzew, *Geschichte der Staatspacht in der römischen Kaiserzeit*, pp. 36 ff., 77 ff., 147 ff.; *CAH*, VII, 166 ff.

<sup>2</sup> The Tariff of Palmyra—a huge stone slab with an inscription of four columns in Greek and Aramaic—was found at Palmyra by a Russian, Prince Abamelek-Lazarew, in the ruins of the city in 1881. Later the stone was shipped to St. Petersburg and is now in the Hermitage. A complete bibliography of this important document up to the year 1905 will be found in Dittenberger, *OGIS*, 629, Introduction. The edition of the Greek version of the document and the comments of Dittenberger, the last based to a large extent on H. Dessau's treatment of the inscription (*Hermes*, XIX, 486 ff.), are the best guides to the understanding of the Greek text of the inscription. Since, however, the Greek text is very much damaged and less complete than the Aramaic and since all the older translations of the Aramaic text are antiquated, we are under obligations to J. P. Chabot, who quite recently in his *Choix d'inscriptions*

relation to the bullae of Orchoi. It belongs to a much later time (136/7 A.D.) and deals with a Roman provincial town in Syria. The following considerations, however, must be taken into account.

Even in the time of Hadrian, Palmyra was not one of the subject cities of the Roman Empire. Though theoretically a Roman municipium and later a colony, it was practically a half-independent vassal state. The so-called Tariff itself (in its later Hadrianic part) contrasts the territory of the city with that of the Roman province (see Chabot, *Choix d'inscriptions de Palmyre* [1922], p. 37, paragraph XXVII, on the salt: "l'impôt du sel qui est à Palmyre sera *comme dans la province*, évalué d'après l'as"), and it is therefore certain that in the time of Hadrian Palmyra and her territory were not regarded as a part of the Roman province of Syria. If this be true for the time of Hadrian, how much more true is it for the earlier days when Palmyra was a buffer-state between Rome and Parthia, paying respect and allegiance to both of them and accepting no orders from either of them. Now, the so-called Tariff of Palmyra consists of two parts: one is the old νόμος, the ancient law, the compilation of which is said in the Tariff to have been effected ἐν τοῖς πάλαι χρόνοις (no doubt earlier than the time of Tiberius); the other comprises additions of the time of Hadrian and shortly before, based, as is stated in the text of the law, mostly on the practice of local tax collectors and Roman officials. In these additions again we must recognize two parts: one earlier, the other later. Moreover, the Tariff of Palmyra is in no way a tariff of customs duties levied in Palmyra by the contractors of this tax. This common opinion of most of the modern scholars is utterly wrong and has been challenged by me repeatedly. It is a general νόμος τελωνικός, and so it styles itself in the two headings, that of the ancient law and that of the most recent one (see below). That is to say, it is a set of legal prescriptions issued by the Senate of Palmyra regulating the amount of various taxes, the collection of which was let to tax-farmers general, τελῶναι or μισθωταί. To this catalogue were added from time to time certain rules which the contractors and taxpayers were supposed to observe. If the customs duties

*de Palmyre*, 1922, pp. 23 ff. (cf. the forthcoming volume of *CIS*.), has given a new and much more complete translation of the document. It is a pity that the Russian specialists in Semitic languages have not found time to publish a new final edition of the queen of the Palmyrene inscriptions.

loom large in this fiscal catalogue of Palmyra it is because Palmyra was a caravan city which lived on the customs duties mainly.

Important as they may be, the customs duties were, however, only one part of the city income as enumerated in the νόμος τελωνικός. The rest derived from other taxes. The old νόμος τελωνικός gives a systematic enumeration of them, appearing in the ancient law in the following form: (1) Taxes on the import, export, and sale of slaves. (2) Customs duties. (3) Taxes paid by various retail merchants and by prostitutes for the right of exercising their trade. (4) Tax for the use of water. (5) Import tax on the products of the fields. (6) Tax on the beasts of burden which enter the city. To this set of taxes the earlier part of the additions to the law adds the tax on salt, which in the ancient law was probably not regulated at all. The question of the salt tax was important enough to be taken up again in the last additions to the law. Besides this one new tax no other new taxes appear in the additions. The new paragraphs of the law deal with certain partial additions to the existing taxes and bring no modifications into the system of Palmyrene taxation as such.

It is obvious that it was not the Palmyrenes who invented their system of taxation. Newcomers as they were (for theirs was one of the most recent caravan cities of Syria), they no doubt took over the system of taxation which was current in Syria in the first century B.C., the time when Palmyra became a city. If so, this system of taxation was that of the Seleucid Empire. Thus the νόμος τελωνικός of Palmyra must be regarded as among the most important documents that we have for the history of taxation in general and for the study of the history of taxation of Seleucid Syria in particular. It is natural, therefore, to use this document extensively in commenting upon particular taxes levied in Babylonia shortly before the foundation of Palmyra as an independent caravan city or caravan city-state, and the use which I purpose to make of it will explain this short introduction to the study of the Orchonian taxes.

Let me deal with each one of these taxes separately.

(a) ἀνδραπόδων or ἀνδραπεδικόν. I have nothing to add to what I have said in part 2 of these comments. On the addition Ὀρχηνοῦ in No. 16 see next subdivision (b).

(b) Ἐπώνιον. This is a well-known tax, familiar to the whole of Greece. It is often connected in one way or another with the κηρύκειον. The difference, however, is explicitly stated by the Lexicon Seguerianum (I. Bekker, *Anecdota*, I, 255): ἐπώνια καὶ

κηρύκεια : ἐπώνια μὲν τὰ ἐπὶ τῇ ὄντι προσκαταβαλλόμενα ὥσπερ ἐκατοσταὶ τίνες· κηρύκεια δὲ τὰ τῷ κῆρυκι διδόμενα ὑπέρ τοῦ κηρύττειν τὰ τέλη πιπρασκόμενα. Cf. *ibid.*, p. 40 : ἐπώνια : τὰ ἐπὶ τοῖς ὄντοις προσδιδόμενα ἔξωθεν χάριτος ἔνεκα.

It is evident therefore that κηρύκεια were levied in case of a sale which was transacted with the help of a κῆρυξ (i.e., either a real auction sale or a sale of land which was previously announced by the κῆρυξ) while the ἐπώνια were paid where the transaction was carried out without the help of the κῆρυξ. As I have pointed out before, the aim of the collection of ἐπώνια or ἐκατοστή (resp. ἐκατοσταὶ) was both fiscal and legal (as payment for acknowledging the conclusion of the transaction). This is explicitly stated by Theophrastus in the text quoted above, p. 58, where the ἐκατοστή is no doubt the ἐπώνιον.<sup>3</sup>

We find the ἐπώνιον collected far and wide over the Greek world. Egypt, however, seems to form an exception. The sales tax in Egypt which was collected from sales of land, houses, and building lots, and from sales of priestly emoluments, etc., the ἐγκύκλιον, which amounted to 5 or 10 per cent of the price of the object sold, is no doubt a modification of the ἐπώνιον but is never called ἐπώνιον. There are but few occurrences of the ἐπώνιον tax in the ostraka and papyri of Egypt.<sup>4</sup> I think, however, that ἐπώνιον

<sup>3</sup> On the ἐπώνιον see Boeckh, *Staathauß. d. Ath.*, I, 382, 395; Boerner, Pauly-Wissowa, *R.-E.*, VI, 243; Busolt, *Gr. Staatsalt.*, I, 616 f.; E. Weiss, *Gr. Privatr.*, I, 343 ff., especially 345 f.; J. Hasebroek, *Staat und Handel im Alten Griechenland* (1928), pp. 181 ff. I am convinced that of the payments in Parch. Dura I, l. 6: ἀπέτισεν . . . εἰς ἀ]παίτησιν καὶ κηρύκειον the first represents the ἐπώνιον, the second the κηρύκειον. Note that the land sale of the parchment has the traditional form of a transaction first announced by the κῆρυξ; see P. Koschaker, *Orient. Literaturz.*, 1930, p. 169; Weiss, *Gr. Privatr.*, I, 255 ff. Cf. further below.

<sup>4</sup> On the ἐγκύκλιον see Wilcken, *Ostraka*, I, pp. 182 ff.; id., *Grunds.*, p. 172; id., *UPZ*, I, p. 511; Preisigke, *Girowesen*, Index, p. 565; E. Weiss, *Gr. Privatr.*, I, p. 346, note 332; W. L. Westermann, *Upon Slavery in Ptolemaic Egypt* (1929), pp. 42 ff. It is probable that in *BGU*, VII, 1564, l. 9: ὑπελογήθ(ησαν) εἰς τὸν κυριακὸν λόγο(v) ρcc we must interpret the signs which appear after λόγον with Wilcken (*Arch. f. Pap.*, VIII, 284) as ἐκατοσταὶ ἔξι ἡμισ; i.e., a payment of 6½ per cent. The ἐπώνια are mentioned not only in Wilcken, *Ostr.*, 1506 (p. 206) but in J. G. Tait, *Greek Ostraka in the Bodleian Library*, I (1930), Nos. 57, 58 (154 B.C.), 124 (149 or 138 B.C.): Λαζαρὸς ἐξειλη-(φῶς) τὸ ἐπώνιον εἰς τὸ λβ' ἔτος, in *P. Par.* 67, and in *P. Cairo Zen.*, 59206 also. This last document requires a special study. It is not im-

as a supplementary tax was levied in Egypt also, mostly under the name of ἐκατοστή. I am confident for instance that it is the ἔπώνιον which was collected under the name of ἐκατοστή in Egypt as an additional fee to the tax on the sale of slaves as regulated by the διάγραμμα of about 200 B.C. I cannot agree with Westermann who identifies the ἐκατοστή of paragraph 1 of the document which was levied upon the sales registered in the office of the ἀγορανόμοι with the κηρύκειον ἐκατοστή of the paragraphs 4 and 5.<sup>5</sup> In paragraphs 2 and 3 the higher general amount of the payments of the purchaser is explained probably by the fact that both the ἔπώνια and the κηρύκεια were collected (private auction sales), while the ἔπώνια were remitted when the auction was a state auction conducted by a state officer. Whether an ἔπώνιον was collected in Egypt in addition to the ἔγκυκλιον tax I do not know. It is more probable that the ἔπώνιον was included in the ἔγκυκλιον, which was in fact a heavier ἔπώνιον for certain kinds of sales, in this similar to the slave-sale tax. See for the Roman times, Wilcken, *Ostr.*, II, 1454; cf. 1066: τέλος ἐνκυκ(λίου) ἀνδραπ(όδων) and the other passages quoted by Naber, *Mnem.*, LIII (1925), 441, notes 14 and 15.

At Orchoi the ἔπώνιον, as I have stated above, was levied both as an additional fee to the slave-sale tax, as in Egypt, and as a separate tax. This last payment I am inclined to compare with the Egyptian ἔγκυκλιον and to regard it as the sales tax in general. However, since the ἔπώνιον stamps do not appear on the bullae as often as we should expect if the tax had been levied upon all types of sale or even only upon all sales of land, it is more probable that the ἔπώνιον tax at Orchoi was paid upon certain types of sale only. It is of course useless to guess what kinds they might have been. A careful investigation of the Babylonian tablets of the Hellenistic period may be perhaps of some help.

It is interesting to note that in many ἔπώνιον stamps the word 'Ορχηνοῦ is added to the name of the tax instead of the usual 'Ορχων (Nos. 16, 17; cf. 59, 60, and 52). In one case we have 'Ορχηνοῦ without any mention of ἔπώνιον (No. 60). The explanation of this addition is given by the inscription of the stamp No.

probable that the ἔπώνιον was connected in Philadelphia with other taxes, among them the ἀλικά. Note that all the mentions of ἔπώνια in Egypt belong to the Hellenistic period. On the κηρύκεια or κηρυκικά, see Wilcken, *UPZ*, I, p. 531; J. G. Tait, *Greek Ostraka in the Bodl. Libr.*, I (1930), No. 4 (189[?] B.C.).

<sup>5</sup> Westermann, *op. cit.*, p. 45; cf. our note 3 on Parch. Dura I and *P. Cairo Zen.* 59373.

57 of 146 B.C., which runs as follows: ἐπωνίου—(date)—'Ορχηνοῦ | λιμένος.<sup>6</sup> What does λιμένος mean? As λιμήν usually means harbor, the most obvious explanation of the inscription would be to take it as the sales tax of the harbor of Orchoi; and as Orchoi was situated on the Euphrates, that explanation might seem to suffice.

The word λιμήν, however, has a special fiscal meaning derived from, but not identical with, the meaning harbor. Everybody knows that a τεσαρακοστὴ or πεντηκοστὴ λιμένων means a customs duty and must be compared with the Roman terms for customs duties, *portus* and *portoria*. A combination of ἐπώνια with customs duties occurs probably at Delos, where the usual entry ἐκ τῆς πεντηκοστῆς σὺν τοῖς ἐπώνιοις (e.g., *IG*, XI, 2, 161A, l. 26; 287, l. 10) may mean a combination of customs duties with a sales tax. If this comparison were regarded as convincing, the explanation of our inscription would be that the collector of revenues testified in the same stamp to the payment both of a sales tax and of customs duties. The same combination consequently would require to be assumed every time we have 'Ορχηνοῦ without λιμένος, whether combined with ἐπώνιον or ἀνδραποδικὴ or appearing alone. I regard this interpretation, however, as highly improbable. It is made impossible by the fact that on the majority of the ἐπώνιον and ἀνδραποδική stamps we find 'Ορχων instead of 'Ορχηνοῦ. 'Ορχηνοῦ λιμένος is therefore identical with 'Ορχων and must be taken as defining a certain region, a certain territory, that at least of the city of Orchoi and the land assigned to it.

'Ορχηνὸς λιμήν, therefore, is the fiscal district of Orchoi, which may have coincided with the city of Orchoi and its territory or may have been wider. It is the same phenomenon as that which we find in Egypt, where many ostraka mention a special tax (transit duty) called πεντηκοστὴ λιμένος Σοήνης or concurrently πεντηκοστὴ Ἐρμωνθ(ίτου) or πεντηκοστὴ περὶ Θήβας. A similar tax appears in many papyrus receipts for gate duties of the Fayum under the name πεντηκοστὴ Μέμφεως. I agree with Fiesel<sup>7</sup> that the

<sup>6</sup> A bulla with a tax stamp bearing the inscription λιμένος was found at Seleucia (Excursus III, No. 16). It is dated 164 B.C. Unfortunately the inscription is incomplete, the third line being very faint.

<sup>7</sup> L. Fiesel, "Geleitzolle im griechisch-römischen Aegypten," *Götting. Gel. Nachrichten, Phil. hist. Kl.* (1925), pp. 70 ff. His reasons are as follows: "Da Hierax und Teilhaber sich sowohl τελῶναι πεντηκοστῆς Ἐρμωνθ(ίτου) wie πεντηκοστῆς περὶ Θήβας nennen und es sich um die gleiche Zollart handelt (as in the case of πεντηκοστὴ λιμένος Σοήνης), wird man annehmen dürfen dass das Gebiet, für das Zoll erhoben wird,

term λιμήν in both sets of documents has very little to do with "harbor" and means in both cases "tax-district."

Decisive for my interpretation of λιμήν Ὄρχηνός are some passages of the νόμος τελωνικός of Palmyra. I mean the two headings: one at the top of the ancient law, the other at the top of the new law. Unfortunately in both cases we have only the Aramaic text of the headings; the Greek translator omitted it—by mistake or deliberately—in the first case, in the second the Greek text shows a lacuna.

According to Chabot the heading in one case is (p. 25): "Loi fiscale de l'entrepôt Hadriana Tadmor et des sources d'eau (d'Aeli)us Cesar" and in the other (p. 32): "Loi de douane de Palmyre, et des sources d'eau, et du sel qui est à Palmyre et dans son territoire, selon le contrat d'affermage stipulé en présence du préfet Marinus." In a letter of October 12, 1930, Rev. Chabot writes me, however, as follows: "Le titre palmyrenien débute par les mots בַּמְוֹתָא וְיַסְכָּא דִּי לְמַנָּא c. a. d. mot à mot 'Lex vectigalis portus (Palmyrae).' Le mot אֲנָלָמָן n'est autre chose que le grec λιμήν transcrit lettre à lettre avec la terminaison araméenne en נ comme dans נָמָוֹן—νόμος." It is therefore probable that we should restore the Greek version of the headings, in the first case as Νόμος (τελωνικός) λιμένος Ἀδριανῶν Παλμύρων καὶ πηγῶν ὑδάτων Αἰλίου Καίσαρος, and in the second case as Νόμος (τελωνικός) λιμένος Παλμύρων καὶ πηγῶν ὑδάτων καὶ ἀλός, etc., in the second.

It is evident, as Chabot remarks in his letter, that the λιμήν of Palmyra is not a harbor, and the character of the inscription makes it certain that the law regulated not the customs duties alone but all the taxes levied in the city of Palmyra. The meaning of λιμήν in the Palmyrene inscription is therefore exactly the same as it is at Orchoi and in Egypt—i.e., fiscal district.

I have noticed in my *Staatspacht* (pp. 62 [390] ff.) the same evolution in the history of the meaning of *portus* or λιμένες in the plural in the Roman Empire in general (λιμένες, e.g., in Sicily and in Asia, both countries of the Hellenistic world). The term is equivalent in the official language of the time to tax districts of which the center, at least in Sicily and in Asia Minor, was an

nicht als der eigentliche Hafenplatz selbst, sondern als District (Gau) zu fassen ist. Die parallele Bezeichnung λιμένος Σοήνης mit λιμένος Μέμφεως der Torzollquittungen des Fayum, wo die Zollstellen, an denen Zoll erhoben wird, von dem Hafenort, nach dem er genannt ist, eine Tagereise weit entfernt liegen ist geeignet diese Vermutung zu stärken." Cf. N. Y. Clauson, "A Customs House Registry from Roman Egypt" (P. Wisconsin 16), *Aegyptus*, IX (1928), 240 ff.

important port. A combination of many such λιμένες or *portus* formed the larger district which comprised the whole of a province. The term *portus* or λιμήν thus became synonymous with a tax unit, a *publicum*. This explains why the four *portus* of Africa were called *quattuor publica Africæ* and eight or ten *portus* of Illyricum, the *octo* or *decem publica*, were equivalent to the *publicum portorii Illyrici*. The beginning of this evolution and of this terminology goes back no doubt to Hellenistic times.<sup>8</sup>

(c) Ἀλική. Next in importance and interest to the group of ἔπωνιον and ἀνδραπόδων bullae are no doubt the few bullae of Orchoi stamped by the salt department of the Seleucid financial administration, the ἀλική. All of them are of small size and each bears, in addition to impressions of official and private seals, one stamp of the salt-tax administration. Three such bullae were found at Orchoi, seventy-one at Seleucia on the Tigris. The seals of the ἀλική used in both places were similar. The Orchonian stamp bears an inscription of three lines: 'Αλικῆς—the date and the Seleucid half anchor—"Ορχων. The impressions of two bullae dated in the same year (90 Sel.—222 B.C.), Nos. 62 and 63, may derive from the same stamp. One bears the impression of a stamp that is similar but of later date (No. 64). On the bullae from Seleucia

<sup>8</sup> New evidence on *portus* as customs district—to add to what I have said in my *Staatspacht* (cf. R. Cagnat, Daremburg et Saglio, *Dict. d. Ant.*, IV, 586 ff.)—will be found in the inscription recently discovered at Bonn. In this inscription a man whose residence is Cologne calls himself *conductor XXXX Galliarum* and at the same time of *Portus Lirensis*; H. Lehner, "Römische Steindenkmäler von der Bonner Münsterkirche," *Bonn. Jahrb.*, CXXXV (1930), p. 13, No. 23, and p. 31. The same combination of the *XXXX Galliarum* and a *portus* (without any specification) will be found in an inscription of Viminacium (Dessau, *ILS*, 9019). Here a certain M. Antonius Fabianus is titled by his libertus "proc(urator) *XL Galliarum et portus*." Later the same man was in charge of the Pannonic silver mines and rented the collection of the customs duties of the Illyricum. It is difficult to say whether the *portus Lirensis* of the inscription quoted above is connected with Liris in Italy and alludes to duties levied in a customs district of Italy. It is just as possible that the name *portus Lirensis* designated duties or a customs district of the Rhinelands. If so the center of this *portus Lirensis* was Cologne. The name of the district may be recognized in the enigmatic *Lirimiris*, one of the 19 *civitates* of N. Germany, quoted by Ptolemaeus (II, 11, 12). The name is connected by Much (*Zeitschr. f. d. Altert.*, XLI, 131) with "leir"—"Lehmgrund" and "marei"—"See," "Sumpf," Franke, Pauly-Wissowa-Kroll, *R.-E.*, XIII, 727. Be that as it may, in any case "*portus*" again means tax-district. Cf. my remarks in *C. r. de l'Acad.* (1930), pp. 256 ff.

see *Excursus III*. Two of them, Nos. 7 and 8, are reproduced on our Pl. XI, No. 4.

On two of the Orchonian bullae the fiscal stamp is accompanied by an uninscribed stamp, probably official. On No. 63 we see the figure of a standing Apollo like that of the chreophylax stamps of the time of Seleucus IV, and on No. 64 the head of Apollo with portrait features very similar to the so-called head of Isis on copper coins of Antiochus IV (see note to No. 64).

One of the few things which have been more or less known as regards the financial system of the Seleucids is the fact that among the most important sources of their revenues was the ἀλική; i.e., a salt tax, or rather a salt monopoly. I was the first to recognize that the same kind of salt monopoly was typical for Ptolemaic Egypt. Lysimachus, moreover, tried to introduce in his empire the same or a similar salt monopoly (*Athen.*, III, 73 D). It is very probable that the kings in all these countries laid claim to the exclusive right of selling salt to their subjects, that the purchase of a certain amount of salt was compulsory for every subject of the king (at least in Egypt and in Syria), and that therefore the tax was resented as a very burdensome obligation by the residents of the Hellenistic monarchies. Release from this tax was regarded as a great privilege.<sup>9</sup>

<sup>9</sup> On the ἀλική see M. Rostowzew, *Geschichte der Staatspacht in der röm. Kaiserzeit*, pp. 83 (411) ff.; Wilcken, *Grunds.*, I, 249; H. Blümner, art. "Salz" in Pauly-Wissowa-Kroll, *R.-E.*, Zw. R., I, 2096. The compulsory purchase of salt by the subjects of the Seleucid Empire is made certain by the expression τιμὴ ἀλός used by the author of I Macc., 10, 29, and also by Fl. Jos., *Ant. Jud.*, XIII, 2, 3 (49) when they speak of the remission of their most burdensome taxes which was granted to the Jews by Demetrius I. I cannot discuss here the problem of the authenticity of the letter of Demetrius as it appears both in Josephus and in I Macc. One point, however, is evident. The document as it stands agrees with what we know from other sources (especially from the bullae of Uruk) of the fiscal system and fiscal practice of the Seleucids. It must be therefore either authentic or forged by a man who was almost a contemporary of the events of which he is speaking and was fully acquainted with all the details of the constitution of the Seleucid Empire. A complete bibliography of the problem as far as the books of the Maccabees are concerned will be found in the excellent article "Makkabäerbücher (I und II)" of E. Bickermann, Pauly-Wissowa-Kroll, *R. E.*, XIV, 779 ff. (bibliography on p. 797); cf. M. S. Ginsburg, *Rome et la Judée*, Paris (1928), pp. 34 ff., and pp. 85 ff., and the review of this book by E. Bickermann in *Gnomon*, VI (1930), 357 ff. Mr. Bickermann was kind enough to supply me with some bibliographical evidence supplementary to his bibliography quoted above, viz.: P.

How the collection of the tax was organized we do not exactly know. However, two chapters of the additions to the ancient νόμος τελωνικός of Palmyra, the so-called tariff of Palmyra, give us valuable information on the subject. No doubt the rules of the ἀλική were much older than the time of Hadrian and reflect the conditions of early Roman times when Palmyra first became a prosperous, free, and independent state.

Unfortunately the main paragraph on the ἀλική in the law of Palmyra is very much mutilated both in the Greek translation and in the Aramaic version. Chabot says about the Aramaic text (p. 32) : "Les deux textes relatifs au sel (i.e., the Greek and the Aramaic) sont fort mutilés. Autant qu'on en peut juger, on définissait que le sel importé était taxé à raison d'un as par modius de 16 sétiers. Il en était de même pour le sel recueilli à Palmyre ou sur son territoire. Le propriétaire des salines était tenu de le faire mesurer par le fermier, et de payer la taxe avant de le mettre en vente." The Greek text (Dittenberger, *OGIS*, I, 629, ll. 92 ff.), very mutilated, can be restored in the manner suggested by Chabot, though it has been restored both by Dessau and Dittenberger in a different way (they took the payers of the tax to be the retail traders, not the importers and producers of salt). I think Chabot is probably right, and that the paragraph shows that both the importers of salt made outside the territory of Palmyra and those who produced it in the salt beds of the neighborhood of Palmyra (which still existed in 1735 according to Granger) had to pay a tax for the right to sell the product in the city.

Since the retail trade was not regulated in this paragraph, the matter was taken up again, probably by a Roman officer (legate of Syria!), in an additional paragraph which we have in the Aramaic version only. It is as follows in the translation of Chabot (p. 37) : "Quant au sel, il m'a paru bon qu'il soit mis en vente sur la place publique, au lieu où on se réunit. Le Palmyréen qui achètera du sel pour son usage donnera un as italique par modius. L'impôt du sel qui est à Palmyre sera, comme dans la province, évalué d'après l'as et le sel sera livré aux marchands pour être

Laqueur, *Hist. Zeitschr.*, CXXXVI (1927), 229 ff. (on the letter of Demetrius I, pp. 247 ff.); S. Jebeleff, *Bulletin de l'Acad. d. Sc. de l'U.R.S.S.*, Classe d. Sc. Soc., 1928, pp. 65 ff. (in Russian); Arn. Momigliano, *Prime linee di storia della tradizione maccabaica* (1930), pp. 141 ff. It is well known that the arguments against the authenticity have been collected recently by H. Willrich, *Urkundenfälschungen in der hell.-jüd. Literatur* (1924).

vendu, selon la coutume." If we accept the translation of Chabot a further tax was paid for the salt by the consumers and the retail traders, the first being one as *pro modio*, the second according to the tradition.

The ἀλική, then, was organized in Palmyra in the following manner. There was no salt monopoly. Importation of salt and salt quarrying were permitted, provided a tax was paid for the salt which was imported into Palmyra. All the salt, however, had to be stored in a special market place and bought there both by the consumers and by the retail traders, probably in the presence of the tax farmer, to whom a tax was paid. Whether there existed any compulsory purchase of salt at Palmyra or not, we do not know.<sup>10</sup>

The inscription of Palmyra helps us to understand the salt bullae of Orchoi. The bullae are so small that the documents which were kept inside them cannot have been very bulky. The fact that very few private seals appear on the bullae testifies to a routine business transaction which required no witnesses. Moreover, the official stamps (probably χρεοφύλαξ) hint that it was important in the eyes of the contracting parties to have the documents officially registered.

The following explanation of these facts may therefore be suggested. It is very probable that the monopoly on the sale of salt existed all over the Seleucid Empire, including Babylonia. If so, the documents kept in the bullae were in all probability receipts given to the retail traders by the contractors or officers of the salt monopoly for a certain amount of monopoly salt purchased by the former from the latter. In the same position were the consumers of monopoly salt, who received the same type of receipts either from the retail trader (ἀλοπώλης) or the ὄνη. In taking a

<sup>10</sup> Similar to a certain extent was the organization of the trade in olive oil. Most of the oil was imported into Palmyra from the Syrian lands famous for their oil. It was apparently a transit ware en route for Mesopotamia and Babylonia where it was partly consumed as food, partly used for making ointments. No doubt a certain amount of it remained in Palmyra. For this imported oil the contractors received specified customs duties. Since, however, some olive oil was produced in the territory of Palmyra the contractors had the right to collect a certain tax from this oil too, provided it was sold on the market (Dittenberger, *OGIS*, 629, ll. 69 ff.; missing in the Aramaic version). There were, however, no special restrictions on the sale of olive oil after the tax was paid similar to those which existed as regards the sale of salt, which may suggest that after all there was compulsory purchase of salt in Palmyra.

certain amount of salt for sale or for personal consumption the retail traders and the consumers paid the price for the salt ( $\tauιμή \alphaλός$ ) and besides, as at Palmyra, a certain tax which probably was called, like the whole of the salt monopoly,  $\alphaλική$ . We must not, however, assume that on the bullae  $\alphaλική$  means the tax. Both  $\alphaλική$  and  $\alphaνδραποδική$  mean the  $\omegaνή$ , the department of state revenues which dealt either with the salt or with the slaves.

Since the documents contained in the bullae gave the right of sale to the  $\alphaλιοπώλαι$  and attested the legal origin of the salt which was in the possession of the retail traders and the consumers, and since, as we know from the monopoly of oil in Egypt, the salt monopoly was closely watched by the state, denunciations of illegal sale or of consumption of smuggled salt and corresponding searches in the houses being an every day affair, the documents contained in the bullae were vital both for the retail trader and the consumer of monopoly salt and it was in their interest that they should be kept in a safe place, be it a shop or a private house or temple and state archives.

The documents in question became still more important if there existed really in the Seleucid Empire a compulsory consumption of salt. In this case every person subject to the monopoly had to be very careful about the receipts which he obtained either from the state or from the retail trader indicating the amount of salt which he took and the price paid for it. If there was such a compulsory consumption we must suppose the existence in each house of Seleucid times in the Seleucid Empire of a special file of receipts for the salt tax. These archives were no doubt jealously kept for a long period of years, since no compulsory consumer of salt was safe at any time from claims of the state based on suspicion of delinquency as regards the salt monopoly, errors in the official tabulations being always possible. In this case an official receipt included in a bulla stamped by an officer or contractor of the  $\alphaλική$  was a salvation for the person supposed to be delinquent.

The above considerations fully explain the find of Seleucia described in Excursus III, in which the receipts for the  $\alphaλική$  loom so large. The Michigan expedition has found a set of household archives. And as the tax on the sale of slaves was of similar importance for the state, it is natural that in these archives alongside the salt receipts the documents which testified to payment of the sales tax on slaves were also jealously kept. Their numbers of course were much more restricted.

The salt bullae show how important the salt income was for the

Seleucids. We knew it before from Josephus and I Macc., but since the documents quoted by these writers are under suspicion, the confirmation of their statement by official documents is highly welcome. We must note again that the dated bullae of the salt tax are of the reigns of Antiochus III and IV or later. Let me again express the hope that some competent scholar will carefully investigate the cuneiform tablets of the Hellenistic period from the point of view of the system of taxation of the Seleucids. It may appear from such a study that the salt tax was levied in Babylonia by the Seleucids from the very beginning of their rule and that it was levied perhaps earlier than the beginning of the rule of the Seleucids by their predecessors, the Persian and the Babylonian kings. Our evidence as it stands suggests, however, that it was probably Antiochus III who introduced the salt tax in its Greek form into Babylonia. He might have learned in detail how to organize the salt tax from his neighbors the Ptolemies, whom he was soon to succeed in Palestine.

The conclusions which I reached in dealing with the material from Orchoi are supported by the new and abundant evidence which has come recently from Seleucia, presented in Excursus III. In his introduction Mr. McDowell has said what is necessary on the ἀλική bullae from that site. I may add one remark. While at Palmyra there was no salt which was ἀτελής (i.e., free of tax; I mean the tax paid by producers or importers), such a tax-free salt existed in Babylonia, derived perhaps from mines owned by temples or by the state. Therefore the salt which came into the hands of retail traders and consumers was divided in Babylonia into two classes, ἀλες ἐπιτελεῖς and ἀτελεῖς, as is shown by the Seleucid bullae. Mr. McDowell has quoted the important paragraph of a well known inscription of Miletus (Milet, I, 3, No. 149, paragraph 4, 1. 19) : τῶν δὲ ἔκφορίων τῶν γενομένω[ν] | ἐν τῇ | χώρᾳ τῇ Πιθασέων (by ἔκφορια is meant the revenue from the land in general, Poll. I, 237) τὸ μὲν ἔλαιον εἶναι ἐπιτελὲς τῶν τελῶ | ν ὃν καὶ Μιλήσιοι πιθασοί (cf. the inscription of Gortyna, Guarducci, *Riv. Fil.*, 1930, pp. 471 ff.: Φέρεν δὲ . . . τῶν γενομένων πάντων ἐν ταῖς χώραις [i.e., ἔκφοριων] δεκάταν καθὼς οἱ Γορτύνιοι πλάνη θνατῶν [cattle], καὶ τῶν λιμένων τὰς προσόδους καὶ λαχάνων) which shows that ἐπιτελής as applied to taxable things characterizes those subject to the tax, the contrast being ἀτελής. I should like to emphasize that the term ἐπιτελής seems to have been applied in the Hellenistic period exclusively to things, not to men, differing in this respect from the companion term ἀτελής. This restricted use of the term is supported by documents of Egypt of the third century B.C.

which use a similar terminology with reference to pigs and goats. In certain accounts these animals are divided into three classes: ἔμφοροι—those subject to φόρος, for which the φόρος has not yet been paid, ἀνευ φόρου—those not subject to φόρος, and ἀπὸ φόρου—those for which the φόρος has been paid (*P. Cairo Zen.* 59310, 3; 59328, 119 and *passim*; 59331, 5). For the buyers of salt its division into two classes had no importance. They probably paid the same price for ἀλες ἐπιτελεῖς and ἀτελεῖς. The division, however, was important for the administration of the ἀλική, especially in the matter of the accounts of the contractors with the producers and the crown. I am glad to state that Mr. McDowell (below, p. 101) has reached the same conclusions.

(d) Πλοίων Εύφρατου. The tax πλοίων Εύφρατου appears on two bullae of Orchoi, one fragmentary, the other complete (Nos. 65, 66). Both show the same type of inscription, in five lines: πλοίων | Εύφρατου—date—two proper names. On one the date is 168 B.C., on the other 162 B.C.; both belong therefore to the time of Antiochus IV. Of the two proper names, only the first is well preserved on both of the bullae. The names are Greek.

It is well known that in Egypt the owners of the Nile ships, both in the Ptolemaic and in the Roman times, had to pay a tax called φόρος πλοίων. According to Ps. Arist., *Oec.*, II, 2, 25, the tax was first introduced by King Taos. However that may be, we know from various documents (papyri and ostraka) that the tax was diversified. A special tax, for example, was paid for the use of fishing boats (πλοία ἀλιευτικά) and another for the use of the ferries which transported goods and men across the Nile.<sup>11</sup>

It is natural that in a land like Egypt these ferries should be prominent in our evidence. No bridges existed over the Nile and not very many over larger canals, yet the exchange of goods and men between the two banks of the Nile and the opposite banks of the canals was very lively indeed. A set of ostraka from Apollonopolis Magna and another from Thebes, both of the second century B.C., and two papyri from Heracleopolis of early Roman times give us good information as to the ferryboat tax ( $\tauὰ πορθμικά$ —i.e., the tax on the πορθμίδες or πορθμεῖα), showing how it was managed by the government. The tax was let to a contractor ( $\tauελώνης$ ) who gave concessions for using the ferryboats to various persons, probably private owners or lessees of private or pub-

<sup>11</sup> Wilcken, *Ostraka*, pp. 391 ff.; *id.*, *Grundzüge*, p. 254; M. Merzagora, "La navigazione in Egitto all'età greco-romana," *Aegyptus*, X (1929), 105 ff. (the first chapters of a comprehensive study of navigation in Egypt). On the πλοία ἀλιευτικά see Merzagora, p. 121.

lic boats of a certain place. We know the name of one of these contractors of the Hellenistic period at Apollonopolis (Poiris) and the names of several concessionaires of the same time and place. Another contractor is known to us from the Theban ostraka of a little earlier time. The rent was paid in money. A special payment was made to the contractor, probably by the owners or lessees of vineyards for ferrying the wine across the Nile (*ναύλου τοῦ οῖνου ορ εἰς τὴν διαγωγὴν τοῦ οῖνου*).<sup>12</sup>

The organization of the ferryboat business in Asia Minor was similar. We have a detailed account of it in a late inscription which describes it as conducted at Myrae in Lycia (Ditt., *OGIS*, I, 572, 2d-3d cent. A.D.). The city had the monopoly of shipping across the bay of Myrae, to Limyra. This monopoly under the name of πορθμική was let by the city to special contractors. Now the νόμος ὡνῆς of the πορθμική was poorly enforced at Myrae and no contractors could be found for the ὥνη. The city therefore published a set of rules regarding the ὥνη. Private ships carrying on a transport business in the bay without special permission were fined 1300 dr., and the contractor had the right to suggest confiscation of the ship and of its implements. Then follows a passage very suggestive for the explanation of our bullae (ll. 30 ff.): πλεύσει δὲ | μόνα τὰ ἀπογεγραμμένα | πλοῖα καὶ οἰς | δὲ συνχωρή-|σῃ δὲ τὴν ὥνην | ἔχων λαμβάνοντος παντὸς | ναύλου τὸ δέ | καὶ τῶν | ἐνβαλλομένων· ἔὰν | δέ τις αὐτόστολον ναυλώσῃ | προσφωνείτω | καὶ | διδότω παντὸς | τοῦ ναύλου τὸ δέ | ή ὑποκείσεται τῷ | προγεγραμμένῳ | προστείμω. The text is not easy to interpret. The difference between those who got a συνχώρησις from the contractor (sublessees or concessionaires) and those who were ναυλοῦντες αὐτόστολοι and had to have an agreement with the contractor, or his consent (προσφώνησις), is a puzzle to me, and so is the rule that the concessionnaire of the contractor was supposed to pay one-fourth of

<sup>12</sup> The Ptolemaic ostraka bearing on the πορθμικά from Apollonopolis Magna (Edfu) will be found in P. Meyer, *Griechische Texte aus Ägypten* (1916), pp. 127 ff., No. 8, "Fährboot-Abgabe" and *BGU*, VI (1922), 122 ff., Nos. 1380-1413. Those from Thebes and Dendera in J. G. Milne, "Theban Ostraka" (*Un. of Toronto Studies*), Part III, Greek Texts, No. 9; *Arch. f. Pap.*, VI, 132 and 134, and J. G. Tait, *Greek Ostraka in the Bodleian Library etc.*, Nos. 53-56, 59, 65, 68, 75, 94; cf. Wilcken, *Ostraka*, Nos. 1351, 1354, 1504, 1507-8. The papyri are quoted in the Introduction of P. Meyer to the publication of his ostraka. The most important are *BGU*, 1188 (15-14 B.C.) and 1208, iii, 41 (27-26 B.C.); cf. *P. Oxy.* 732 (150 A.D.). Cf. the πορθμικού tax of Thebes (111 and 186 A.D.), Tait, *op. cit.*, Nos. 112, 113.

the money received from his clients and in addition (or alternatively) one-fourth (?) τῶν ἐμβαλλούντων. Is this to be understood of the cargo, or is it the fees of the passengers? If cargo, was the charge meant as payment for the transport of goods which belonged to the concessionaire? If so, it was heavy—25 per cent of the value of the cargo.

However that may be, what concerns us is the fact that all the shipowners were obliged to declare their ships (*ἀπογράφειν*) and then to get a special license to use them. This license was given to the man who wanted to engage in shipping concurrently with the τελώνης by the τελώνης himself and not by the city. The permission took the form of a license (*συνχώροις*) or of an agreement (*προσφώνησις*).<sup>18</sup> In both cases the understanding was that the concessionaire would pay 25 per cent of his earnings to the contractor of the ὄντι. It is more than probable that the Orchenian bullae testify to a similar organization of the traffic on the Euphrates. They do not tell us whether it affected the ferryboats exclusively or all the Euphrates boats which were registered in the harbor of Orchoi. I may point out that no doubt the ferry-boat business on the Euphrates was as important as the one on the Nile.

In any case, it is very probable that the φόρος πλοίων Εὐφράτου was let to a contractor in each harbor of the Euphrates. This man gave the permission or the concession to owners or lessees of boats to use them to transport goods or men on the Euphrates. I venture to suggest that such licenses were the documents preserved within the Orchenian bullae. The private seals upon them are those of the concessionaires and of their witnesses. The seal of the τελώναι testified to the granting of the license by the holders of the ὄντι and perhaps to the payment of a certain fee by the concessionaire. Like the ἀλική documents, no doubt, the licenses were jealously kept because the concessionaires very often had occasion to produce or quote them.

It is possible, of course, to suggest another explanation of the

<sup>18</sup> I may draw the attention of the reader to the fact that the same expression, *προσφώνησις*, is used in the seed-grain receipts which are so common among the Greek papyri of Roman times, H. Frisk, "Pap. Greec de la Bibl. Munic. de Gothebourg," *Goteborgs Högskolas Årsskrift*, XXV (1929), No. 2; Wilcken, *Arch. f. Pap.*, IX (1930), 249 f. Does *προσφώνησις* mean "promise"—in the case of seed-grain, the amount of corn promised by the state to the peasants, for which they are giving receipts (*ἔσχον προσφώνησιν*), and in the case of the shippers, the promise of part of their fees to the contractor?

tax πλοίων Εύφρατου. It is known that both in Egypt (see note 4) and in Palmyra (Ditt., *OGIS*, 629, ll. 90 and 166) the contractors of the customs or transit duties of the Fayum and the contractors general of Palmyra levied a certain tax not only upon the wares which passed through the "gates" of Palmyra and the Fayum villages but also upon the beasts of burden (camels and donkeys), which carried the wares. Customs duties existed in Babylonia no doubt from time immemorial. We know certain details of them for the Neo-Babylonian period, when the duties were levied both on the quay (Karu) and at the city gate (Babu). The same system was used in Assyria (Meissner, *Babylonien und Assyrien*, I, 130 and 143). However, to accept this suggestion would leave me at a loss to explain our bullae. It is much more probable that the ships registered at a certain place had to pay a certain tax to the local contractors for the right to carry on the shipping business in general. The same ships may have paid other taxes in the harbors to which they brought certain cargoes.

Still another explanation of the tax might be given. In Egypt a transfer tax (*ἐγκύκλιον*) was levied upon sales of ships, a tax still in common use in the Roman times. It is natural to suggest that our bullae were analogous to the bullae with the andrapodiké stamp, and contained contracts of sale of Euphrates ships. However, this hypothesis also leaves us at a loss to explain some peculiarities of the bullae—the fact that they bear no chreophylakes stamps and no eponion stamps, their small size, and their general similarity to the salt-tax bullae.

In conclusion, let me emphasize again how much light our bullae and single clay impressions throw on the history of the Seleucid Empire. Perhaps the most important point is the light shed on the earnest endeavors of Antiochus III and Antiochus IV to Hellenize Babylonia. Orchoi, an old site of Babylonian civilization, became a half-Greek city and a good portion of its business life was in the hands of the Greeks. Hellenization and exploitation by means of taxes and monopolies were the two slogans of the two Antiochi. For both purposes they used the good services of the Syrian Greeks, emigrants and foreigners who certainly cared very little for the glorious past and the civilization of Babylonia. How much or how little these Greeks learned from the Babylonians we are not able to judge. One thing of which we are sure is that they were strongly influenced by the Babylonian religion and especially by astrology. Their seals bear eloquent testimony to it.

How far did the Greeks Hellenize Babylonia? The question is

very important but hard to answer. We must wait for the results which may come from the excavations of Seleucia and for more material on the Parthian period in Babylonia and Mesopotamia. We must not forget that what the Parthians received and absorbed of Greek civilization, religion, and art came from Babylonia, especially from Seleucia, though to a certain extent also from Mesopotamia and Palmyra.

Our bullae supply us with glimpses only. If we take into account the fact that while cuneiform tablets still reign supreme at Orchoi in the time of the first Seleucids, they gradually retreat in the time of Antiochus III and his successors before Greek documents on parchment and papyrus, and if, furthermore, we consider how many Greek names and seals appear at Orchoi at that time, we may say that the efforts of Antiochus III and his immediate successors were meant seriously.

EXCURSUS I  
BY MARIANO SAN NICOLÒ

(From a letter dated Prague, August 14, 1930.)

“**Mir** sind Sklavenaufsteuern in den Tontafeln aus Babylonien & Assyrien überhaupt nicht bekannt; allerdings überblicke ich noch nicht alle Urkunden der Seleukidenzeit, weil ich erst im Herbst mit ihrer Veröffentlichung beginnen werde; bis zum Beginn des 3 Jhrh. v. Chr. ist die Steuer *bestimmt nicht da*.

“Was die Registrierung von Vertragsurkunden anbelangt, so findet man weder in Babylonien, noch in Assyrien irgendwelche sichere Anhaltspunkte dafür, dass die Deponierung von Privaturokunden in Archiven Pflicht gewesen wäre, oder bestimmte privatrechtliche Folgen gehabt hätte. Das in den Tafeln der Seleukidenzeit einige Male erwähnte *bît šatâri* ‘Haus der Urkunden’ entspricht wohl dem chreophylakion (vgl. Koschaker, Savigny Ztschr. XLVI, S. 294, 4), aber meiner Ansicht nach zeigt gerade die Anwendung des Ausdruckes *šatâru* ‘Urkunde, Schriftstück’ statt *tuppu* ‘Tontafel,’ dass darunter nicht der Aufbewahrungsort von Tontafeln gemeint ist. Daraus folgere ich, dass die Einführung des *bît šatâri* mit den neuen Urkundenträgern, Papyrus & Pergament, zusammenhängen wird, selbst wenn es nebstbei auch für Tontafeln verwendet worden sein mag. Ich werde ja selbst diese Fragen im Kap. IV meiner ‘Beiträge zur Rechtsgeschichte im Bereich der Keilschrifturkunden,’ welche als Veröffentlichung des Osloer Institutes bald erscheinen werden, besprechen. Man könnte weiter auch denken, dass die seit der neuassyrischen Zeit (Mitte des 8 Jhrh.) oft begegnenden aramäischen Beischriften mit einer Registrierung usw. in Verbindung gestanden haben, weil die Verwaltung schon vielfach aramäisch geführt worden ist (bes. in der Perserzeit), aber nachweisen lässt sich das nicht. Dagegen wissen wir, dass Prozessurkunden schon in altbabylonischer Zeit (Hammurapi usw.) im Gerichtsarchiv deponiert waren. Der Gerichtsarchivar, *mâr pisân tuppi ša dajânê*, stellt davon auch Abschriften an die Parteien aus. Das gleiche gilt auch für die neubabyl. Zeit.

“Für die Geschäftsurkunde dagegen scheint das Archivwesen, wie schon gesagt, trotz der ungemein grossen Verbreitung der Schriftlichkeit im Rechtsverkehr nur eine nebensächliche Rolle gespielt zu haben. Alles, was man bisher über ein Grundbuch usw.

behauptet hat (auch in mittelassyrischer Zeit), ist m. E. zu 80% unrichtig, daher grösste Vorsicht.—Mehr weiss ich auch nicht.”<sup>1</sup>

<sup>1</sup> [See now Marian San Nicolò, *Beiträge zur Rechtsgeschichte im Bereich der Keilschriftlichen Rechtsquellen*, Oslo, 1931. Instituttet for Sammenlignende Kulturforskning. This excellent book gives a general introduction to the cuneiform business-documents, records of lawsuits, and laws from the juridical point of view. The book came too late to be used in the first part of my article. I recommend it, and especially chapter III, “Die Tontafel als Urkundenform des Privatrechtes,” to everybody who wants a full and excellent survey of those sides of Babylonian juridical life with which my paper is concerned. M. R.]

## EXCURSUS II

BY R. P. DOUGHERTY

### THE NAMES OF TWO ARAMEAN SCRIBES STAMPED UPON CLAY BULLAE

THAT there were many scribes in Babylonia who wrote in the Aramaic language upon skins and possibly upon papyrus has been definitely proven.<sup>1</sup> The activity of these scribes was connected with the ordinary routine of business as well as with the requirements of political exigency. It is all the more interesting, therefore, that the names of two of these scribes have been preserved upon clay bullae coming from Erech and belonging to the Seleucid period. These Aramaic names have been deciphered by Professor C. C. Torrey.

Upon a bulla (see Pl. III, No. 4) owned by the Chicago Oriental Institute is impressed in Aramaic characters the name **אָנָּעַ אֶחָדֵין**, *An-ah-ittin*, which is undoubtedly equivalent to *Anu-ah-iddin*<sup>2</sup> or *Anu-ahē-iddin*.<sup>3</sup> That *Anu-ahē-iddin* is a possible cuneiform equivalent of the Aramaic name **אָנָּעַ אֶחָדֵין** is shown by the fact that the cuneiform name *Ahē-utir* is represented in Aramaic by **אָנָּעַ**.<sup>4</sup> Even long vowels were at times unindicated in the Aramaic writing of Babylonian names. Upon a bulla in the Morgan Library Collection appears **נִדִּת**, *Nidit(tu)*, which may be regarded as an abbreviated Aramaic representation of cuneiform *Nidintu*,<sup>5</sup> a very common Babylonian name. Comparison should be made with *Nabū-ittannu*, the Aramaic transcription of which is **נְבֹואתָן**,<sup>6</sup> the long vowel of *Nabū* being indicated in the Aramaic form of the word. Hence it is evident that practice varied in this respect. The element *ittannu*<sup>7</sup> of the name *Nabū-ittannu* is represented by **אֶתָּן**, which may be looked upon as analogous to the use of **תָּן** for *Nidit(tu)* or *Nidintu*. The derivation of *Nidit(tu)* from *Nidintu* can be explained on the basis of the tendency of

<sup>1</sup> See *Journal of the American Oriental Society*, XLVIII, 109–135.

<sup>2</sup> The meaning of this name is “Anu has given a brother.”

<sup>3</sup> The meaning of this name is “Anu has given brothers.”

<sup>4</sup> See Clay, “Aramaic Indorsements on the Documents of the Murašû Sons,” *Old Testament and Semitic Studies*, I, 299.

<sup>5</sup> The name *Nidintu* (from *nadānu*, “give”) means “gift.” The name occurs also as *Nidintum*.

<sup>6</sup> See Clay, *op. cit.*, p. 302.

<sup>7</sup> *Ittannu* is regarded as coming from *natānu*, a variant form of *nadānu*. Cf. note 5. See Tallqvist, *Neubabylonisches Namenbuch*, p. 326.

Semitic languages to drop a preconsonantal *n* with resultant doubling of the following consonant. This doubling is not represented graphically in most Semitic languages.

Although the occupation of 𒆠𒀭𒀭𒀭 and 𒆷𒆷 is not explained by any descriptive title, it is natural to assume that they were the persons who wrote the documents which were inclosed and sealed by the clay bullae upon which their names are stamped.

Intimation of the correctness of this view is provided by cuneiform tablets of Seleucid times found at Erech. These tablets show that there was a scribe by the name of *Anu-ahē-iddin*<sup>8</sup> who wrote upon the prepared skins of animals. It is now known that the term *sipir*, preceded by the proper determinative, was represented ideographically by the two Sumerian signs *KUŠ* and *SAR* in the combination *KUŠ-SAR*, preceded by the determinative denoting a profession.<sup>9</sup> This group of signs was employed for the purpose of referring to one who wrote upon animal skins as compared with the *DUB-SAR* who wrote upon clay. Considerable importance may be attached to the fact that *Anu-ahē-iddin* appears to be described in one text by the Semitic term *sipir*, equivalent to the Hebrew and Aramaic word which means "scribe," and in another text by the Sumerian expression *KUŠ-SAR*, the literal meaning of which is "skin writer."

Published cuneiform texts of the Seleucid era contain two references<sup>10</sup> to *Nidintu-Ishtar* as the *sipir* of the property of Anu and one reference<sup>11</sup> to the same individual as the *KUŠ-SAR* of the property of Anu. The possibility that 𒆷𒆷 may stand for *Nidintu*, a shortened form of *Nidintu-Ishtar*, should not be overlooked. There was a tendency to represent compound Babylonian names by means of one of the elements of the name group with the addition of *a* or *ia*. Thus the person bearing the name *Mar-*

<sup>8</sup> See Clay, *Legal Documents from Erech, Dated in the Seleucid Era*, 35: 39; 48: 28. The former passage describes *Anu-ahē-iddin* as the son of *Nidintu* and the grandson of the scribe (*sipir*) of the property of Anu. The latter passage refers to him as the son of *Nidintu-Ishtar* and the grandson of *Anu-ahē-iddin*, the scribe (*KUŠ-SAR*) of the property of Anu. Since *Nidintu* and *Nidintu-Ishtar* may refer to the same person, it is fairly certain that the *sipir* of the property of Anu mentioned in the first passage is the same as the *KUŠ-SAR* of the property of Anu mentioned in the second passage. This is sufficient to determine the status of *Anu-ahē-iddin*, the grandfather, as a writer upon skins.

<sup>9</sup> See the reference given in note 1.

<sup>10</sup> See Clay, *Legal Documents from Erech, Dated in the Seleucid Era*, 34: 25; 35: 36.

<sup>11</sup> *Ibid.*, 39: 5.

*duk-zér-ibni* could be indicated by any one of the three following hypocoristica: *Mardukâ, Zêria, Ibnia*.<sup>12</sup> That the hypocoristic, or diminutive, ending might be omitted in Aramaic shortened forms of Babylonian names is indicated by the occurrence of מְדֻרָּה for *Marduk-rimanni*.<sup>13</sup> *Nidintu* was used as a normal abbreviation for *Nidintu-Ishtar*.<sup>14</sup> Therefore it may be regarded as extremely plausible that the Aramaic name נִידִינָה equals cuneiform *Nidintu-Ishtar*. The fact that there was a *Nidintu-Ishtar* who functioned as a professional writer upon animal skins adds to the likelihood of the relationship which has just been suggested.

It seems clear, then, that נִידִינָה and נִידָה, names which are stamped in Aramaic upon clay bullae of the Seleucid era, have their counterpart in Babylonian names written in cuneiform upon clay tablets of the same period. Furthermore, the corresponding names occurring in the cuneiform texts which have been cited are without doubt the names of scribes who wrote upon skins and not upon clay. This is in entire harmony with the fact that the bullae described by Professor Rostovtzeff were placed around rolls of inscribed skins for the purpose of sealing them.

Another interesting possibility should be mentioned. The cuneiform texts referring to *Anu-ahê-iddin* and *Nidintu-Ishtar* intimate that they may have been members of a family of scribes whose business it was to write in the Aramaic language upon skins.<sup>15</sup> It is easy to understand that this profession may have

<sup>12</sup> See *The Babylonian Expedition of the University of Pennsylvania, Series A: Cuneiform Texts*, Vol. X, p. 17. The hypocoristic ending was not always used in abbreviated forms of Babylonian names.

<sup>13</sup> Cf. Stevenson, *Assyrian and Babylonian Contracts with Aramaic Reference Notes*, p. 139; Tallqvist, *Assyrian Personal Names*, p. 128.

<sup>14</sup> It should be stated that *Nidintu-Ishtar* means "The gift of Ishtar."

<sup>15</sup> See the discussion in note 8. The *Nidintu-Ishtar* alluded to in the references given in notes 10 and 11 ranges as a scribe, according to the texts thus far available, from the year 124 to the year 149 of the Seleucid era. The texts mentioned in note 8 as referring to *Anu-ahê-iddin* are dated in the years 129 and 160 of the Seleucid era. There is no way of proving that the *Nidintu-Ishtar* referred to in notes 10 and 11 was the same as the *Nidintu-Ishtar* mentioned in note 8 as the descendant of a man by the name of *Anu-ahê-iddin* and the father of a man by the same name. However, no chronological difficulty is necessarily involved in the equation. Although the facts do not allow final conclusions they nevertheless indicate that the names *Anu-ahê-iddin* and *Nidintu-Ishtar* were common in what may be regarded as a family or guild of scribes who wrote upon skins.

been maintained and perpetuated within groups of persons related to one another. That the two persons whose names are recorded in Aramaic upon the clay bullae which have been discussed were connected by family ties is a probability which should cause no surprise.

EXCURSUS III  
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THE BULLAE FROM SELEUCIA<sup>1</sup>

IN a previous article<sup>2</sup> I discussed eighteen legends in Greek which had been stamped on bitumen or clay, and which were found in the course of the excavations at Seleucia-on-the-Tigris. Five of these impressions were picked up on the surface of the mounds, and thirteen were described as having come from what was provisionally designated as level III of the area under excavation. Progress in the work during the succeeding season makes it possible to state definitely that the room in which the impressions were found belongs to the level next below, level IV. During this season, 1930-31, a new lot of fragments of bullae were uncovered in another room of the same level. Both rooms are parts of a single structure that occupied an entire city block and that formed, evidently, the private residence of a family of considerable wealth. The coins of level IV which have been cleaned thus far indicate that occupation of this level extended from a point in the reign of Seleucus I (312-280 B.C.) to a point in the reign of Demetrius II (146-138 and 130-125 B.C.). The two lots of fragments bear the evidence of a deliberate attempt to destroy the sealings themselves as well as the documents of which they formed a part.

The first group of impressions from the building, which I have designated lot A, comprised fourteen fragments with legends, complete or partial, 113 fragments that bear one or more seal impressions without legends, and several handfuls of minute particles. The second group, lot B, is much smaller but contains a much greater percentage of legends. This is chiefly due to the fact that it was less thoroughly destroyed than was lot A. Lot B comprises two bullae that are whole, fifty-nine fragments which bear legends, fifty-one fragments bearing one or more seal impressions without legends, and very few particles. One of the

<sup>1</sup> A complete discussion of these bullae will be given in a forthcoming volume of the Humanistic Series published by the University of Michigan Press.

<sup>2</sup> Preliminary Report upon the Excavations at Tel Umar, Iraq, Conducted by the University of Michigan and the Toledo Museum of Art, University of Michigan Press, 1931, IV "Bullae."

complete bullae is covered with seal impressions only; the other has a single legend stamped on two of its faces, and, in addition, seal impressions. The fifty-nine legends comprise twenty-six pairs of duplicate impressions, together with seven single impressions. The material, texture, and color of the individuals of each pair appear to be exactly alike. In view of this similarity, and of the evidence furnished by the bullae that are entire, it is assumed that each original, unbroken bulla of this lot bore two legends which had been impressed with a single stamp, or else, in some instances, bore seal impressions with no legends. The duplicates of the seven single legends have undoubtedly been reduced to unrecognizable particles. To judge from the characteristics of the fragments, it is likely that the bullae without legends were approximately equal in number to those that bore legends.

It is possible that in lot A there is one instance of a pair of duplicate legends. One impression, No. 6, bears the date EIP. Another impression, No. 11, is exactly like No. 6 in respect to material and color, to the spacing of the letters on each line in relation to the letters on the other lines, and to the style of the lettering. But it is incomplete and a part of the date is missing. The first numeral, P, is clear; the third is entirely lost. The break on the face of the impression occurred between the first and the third numerals. That the date was composed of three rather than two numerals is made evident by the spacing of the first two numerals. The second numeral is represented, at the edge of the break, by a perpendicular stroke which may be iota or the beginning of another character. There is no evidence on the impression that is against an assumption that the date is [EI]P, and that the two impressions form a pair.

As has been stated above, five of the impressions which have been previously published, Nos. 1, 3, and 7-9 in the present catalogue, were found on various parts of the surface of the mounds at Seleucia. They are of one type, having four lines of inscription with ἀλικῆς, Σελευκεῖας, the date, and ἐπιτελῶν. On No. 1 the date appears as the second line, the city-name as the third; on the others the order is as given above. The other thirteen legends, which form a part of lot A, may be grouped into four classes in accordance with subject matter. Seven, Nos. 2, 4-6, and 10-12, are concerned with ἀλικῆς; three, Nos. 13-15, with ἀνδραποδικῆς; one, No. 16, with λιμένο[ς]; and two, Nos. 17 and 18, give the titles of officials. The seven legends with ἀλικῆς are of the same type as those from the surface. On one, No. 5, the date forms the second line; on the others the city-name precedes the date. Of the

three legends forming the second class, one, No. 13, is of the same type as the ἀλικῆς legends, and is composed of ἀνδραπ[οδικῆς], Σελευκέ[ιας], the date, and εἰσαγω[---]. Another, No. 14, is a fragment of an impression: under the single line, [άν]δραποδικῆς, can be seen traces of a bar, perhaps part of a symbol with which the legend was associated. The third, No. 15, has two lines of legend separated by a group of small symbols at the center of the impression. The face has been so badly abraded that the second line is represented by traces of characters only, and is entirely illegible. Each of the three individuals of this group represents a different type of stamp although all are concerned with a common general subject. The impression No. 16 is of still a different type, having three lines of legend with λιμένο[ς], the date, and a third line which, although illegible, is clearly not the city-name. The impression No. 17 has one line of legend associated with a symbol, a tripod-lebes. I had read this legend as ]υκλιοφυλακικός, and had restored the line as [ένκ]υκλιοφυλακικός. Professor Rostovtzeff, after examining the original, has informed me that he has been able to make out the complete legend, which he reads as βυβλιοφυλακικός. The impression No. 18 bears a large portrait head and, to the left, an incomplete legend, [---]λάκων, or [---]αλκων. On the basis of the similarity between this impression and those from Warka, Professor Rostovtzeff has restored the legend as [χρεοφ]-λάκων. The impression No. 19 forms a part of lot A, but is now published for the first time. All that has been preserved of the face of the impression is the one line of legend which I read as καταγραφη[ ], possibly to be completed as καταγραφή[ς]. In so far as it is possible to judge from the shape of the fragment, I do not think that the original was of the common type with four lines. It appears rather to have been of the type of No. 14 or No. 18, where a line of legend is associated with a major symbol. It is possible that on these impressions there was originally a second line of legend separated from the first by the symbol, but, on our fragments, broken off or obscured. On such a supposition, Nos. 14, 18, and 19 would be related, in respect to type, to No. 15 rather than to No. 17.

The legends of lot B are all of one type, and are composed of four lines with ἀλικῆς, Σελευκείας, the date, and ἀτελῶν. Nos. 22 and 23, a pair, have the date as the second line; another pair, Nos. 26 and 27, have the date as the first line; on all the other legends of this lot the date follows the city-name. The legends of lot B are, therefore, of the same general type as the four-line legends of lot A, and, in respect to subject matter, are to be classed

with the five legends from the surface and the seven legends with ἀλικῆς that form a part of lot A.

In this note I shall make no attempt to discuss in detail the values of the Greek terms which are found on these impressions, nor the inferences which may be drawn from their association together. ἀλικῆς is the genitive form of ἀλική with the general meaning "salt tax."<sup>3</sup> I have not been able to find a reference to the form ἀνδραποδικῆς. It is without doubt a derivative of ἀνδράποδον, "slave," and is probably the genitive of a form ἀνδραποδική. On the basis of the analogy of the construction of ἀλικῆς, it may be taken as a term for a tax on slaves, or it may have simply a general value, as "relating to slaves." The use of the term λιμένο[ς] must remain somewhat doubtful, pending the uncovering of further examples of this impression, in a better state of preservation. The excavations have revealed evidence that corroborates the references to the port of Seleucia in the literary sources, in suggesting that the harbor was an establishment of importance in the life of the city. I had therefore assumed that the legend refers to the port, probably in connection with dues paid by vessels using the harbor. Professor Rostovtzeff has, however, very correctly pointed out<sup>4</sup> the use of this term elsewhere to denote a "fiscal area." The forms ἐπιτελῶν and ἀτελῶν are taken to be the genitive plurals of ἐπιτελής and ἀτελής, with the meanings, respectively, of "subject to tax" and "free from tax" or "untaxed" (Liddell and Scott, *op. cit.*). The incomplete legend εἰσαγω[ ], found on impression No. 13 in connection with ἀνδραποδικῆς is probably some form of a derivative from εἰσαγωγή, "importation of goods," perhaps εἰσαγωγικός, "of or for importation" (Liddell and Scott, *op. cit.*).

The legend on the impression No. 17, if restored as [ἐνκ]υκλιοφυλακικός, an assumed derivative from ἐγκύκλιον, "tax on sales" (Liddell and Scott, *op. cit.*), may be taken as referring to an official charged with the administration of this tax. The terms βυβλιοφυλακικός and [χρεοφυ]λάκων have been discussed above by Professor Rostovtzeff. The term καταγραφή, found on No. 19, has the general meanings of "list," "register," "conveyance" (Liddell and Scott, *op. cit.*). As used in Egypt it was "the official recording of a sale,"<sup>5</sup> which was performed before the agoranomus.

<sup>3</sup> Liddell and Scott, *Greek Lexicon*, ed. H. Stuart Jones, 1925.

<sup>4</sup> Above, pp. 79 f.

<sup>5</sup> W. L. Westermann, *Upon Slavery in Ptolemaic Egypt*, New York, 1929, pp. 9 ff.

It should be noted that upon another face of this same fragment, No. 19, appears a portrait head, apparently exactly like the head on the impression No. 18, which is there associated with the legend [χρεοφά]λακών. No legend can be seen in connection with this portrait on No. 19, but as other seals have been affixed immediately behind the head, it is possible that the legend has been obscured and that this second impression on No. 19 is a chreophylax seal. Such an association on a single bulla of the καταγραφή impression with the seal of the chreophylax would be significant.

While the dated legends of lot A that survive are few and scattered, associated seal impressions which represent portrait heads of Seleucid kings and queens supplement the evidence of the dates. It appears that the impressions of lot A cover a period from a point in the reign of Seleucus I to a point in the reign of Demetrius II. This confirmation of the evidence of the coins from the same level makes it probable that the archive represented by lot A received additions during the whole period of the occupation of the level. The dates on the legends of lot B form a sequence that is almost unbroken, from the year 124 to the year 159. It is assumed that the dates on the impressions are based on the Seleucid Era. Only the years 126 and 141 are not represented by even a single legend. For reasons that cannot be discussed within the limits of this note, I am convinced that the bullae of this lot which have been recovered represent very closely the limits of the archive which they composed. On the basis of this assumption it appears that the archive represented by lot B covered a period extending from a point shortly before the death of Antiochus III to a point just prior to the death of Demetrius I. Evidence afforded by the architectural remains associated with these bullae makes it very probable that this archive was destroyed, not at the time it was closed, but at the end of occupation of the level, that is, sometime during one of the reigns of Demetrius II. It is likely that both archives were destroyed at the same time and from the same causes.

The formula "salt tax—free of tax" implies that the salt tax was in force during the period covered by the documents which bore this formula. Archive B is the record of some form of exemption from a tax that was being generally enforced during this period. The formula "salt tax—subject to tax" appears to indicate that exemption from this tax was a recognized occurrence and that the particular "exemption" of which we have the record was not extraordinary. The evidence now in hand perhaps is not sufficient to explain satisfactorily the values of the two sets

of formulae. That certain classes of salt were exempted from tax is far from likely. Certain groups of individuals may have been permitted to purchase salt without the payment of the tax. Against this possibility is the fact that the consumption of salt, as between the wealthy and the poor, could have varied but little; as the tax was paid by the poor as well as by the wealthy, the amount of the tax must have been of little importance to the favored classes in the population that might be expected to receive a special exemption. We should rather seek an explanation of the apparent exemption in the fiscal policy of the state, in the forms of agreement that existed between the state and the tax contractors. On such an assumption the "exemption" would not involve an actual lowering of the revenues, but rather would be a book-keeping device covering advances to the state on the part of contractors. Some evidence to support such an assumption may be found in the fact that our series of "exemption" legends opens at the time when Antiochus III, his treasury empty, was preparing the campaign that was to take him from Seleucia into Persia in a last effort to regain in the East what he had lost in the West.

In the following catalogue, Nos. 1–18 are impressions which were published in my previous article. Of these Nos. 1, 3, 7, 8, and 9 are from the surface of the mounds. The rest form a part of what has been referred to above as lot A. No. 19 belongs to lot A, but was not published in the earlier article. Nos. 20–80 comprise all of the impressions with legends that form a part of lot B, and are now published for the first time.

Owing to the effects of fire and of exposure it is in some cases difficult to recognize the material of which each fragment is composed. The dimensions given refer to the face of the legend-impression. The occurrence of pairs of duplicate impressions is noted. Other seal impressions without legends occur on some of the fragments. They are noted in the present catalogue without comment. A symbol, or a group of symbols, appears on the greater part of the impressions immediately after the date. The character of each symbol is here noted without comment.

No. 1. ἀλικῆς | ΕΚ | Σελευκεία[ς] | [έπιτελῶν]

Clay. Height 11 mm., width 15 mm.; the bottom and the right edge of the face missing; badly worn. Note position of the date as the second line of the legend. Symbol, half anchor.<sup>6</sup>

<sup>6</sup> [Cf. above, p. 51, note 2a. M. R.]

No. 2. ἀλικῆς | Σελευκείας | ΓΠ | ἐπιτε[λῶν]

Bitumen over clay. Height 18 mm., width 16 mm. (almost circular seal); lower right side of the face missing. Symbol, Nike, right, holding crown in outstretched hand; in front, at the break in the fragment, traces as of rays (head of Helios?).

No. 3. ἀλικῆς | Σελευκεία[ς] | ΗΡ | [ἐπι]τελῶν

Clay. Height 16 mm., width 20 mm.; face complete, but too small to receive the impression of the entire stamp. Symbol, complete anchor.

No. 4. [ἀλι]κῆς | [Σελ]ευκείας | -- P | [ἐπιτ]ελῶν

Bitumen. Height 13 mm., width 13 mm.; left half of the face missing. Symbol, half anchor.

No. 5. ἀλικῆς | ΔΡ | Σελευκεία[ς] | ἐπιτελῶ[ν]

Bitumen. Height 14 mm., width 16 mm.; face complete. Note position of the date as the second line of the legend. Symbol, half anchor. One seal impression.

No. 6. [ἀλικῆς] | Σελευκείας | EIP | ἐπιτελῶν

Bitumen. Height 12 mm., width 18 mm.; upper part of the face missing. It is possible that No. 6 forms a pair with No. 11. Symbol, half anchor.

No. 7. ἀλικῆς | Σελευκεία[ς] | EIP | ἐπιτελῶν

Clay. Height 13 mm., width 15 mm.; face complete. Symbol, half anchor.

No. 8. ἀλικῆς | Σελευκεία[ς] | ΘΙΡ | ἐπιτελῶ[ν]

Clay. Height 12 mm., width 16 mm.; face complete but too small to receive the impression of the entire stamp. One seal impression.

No. 9. ἀλικῆς | Σελευκεί[ας] | Σ. KP | ἐπιτελῶ[ν]

Bitumen. Height 13 mm., width 16 mm.; face complete, but abraded. The kappa and the rho of the date are written closely together, well centered, and give the impression that the date was composed of two numerals only. To the left of the kappa is an incomplete character that may be taken for a zeta, reversed, as a part of the date. This form of numeral is found on Nos. 24, 59, and 60. Upon close examination, however, the character appears to me to be a sigma, which I take to be the final letter of the city-name, brought down as the initial letter of the following line. On Nos. 34 and 35, the final two letters of the city-name are so treated. Symbol, half anchor.

No. 10. ἀλικῆς | Σελευκεία[ς] | AKP | ἐπιτελῶν

Clay. Height 12 mm., width 16 mm.; face complete. Symbol, half anchor. Two seal impressions.

No. 11. ἀλι[κῆς] | Σελ[ευκείας] | EI[P] | ἐπιτε[λῶν]

Bitumen. Height 12 mm., width 7 mm.; the right half of the face missing. It is possible that No. 11 forms a pair with No. 6.  
 No. 12. [ἀλικ]ῆς | [Σελε]υκεῖα[ς] | --- | [έπιτελ]ῶν

Bitumen. Height 14 mm., width 6 mm.; face broken and badly gouged.

No. 13. ἀνδραπ[οδικῆς] | Σελευκε[ίας] | BKP | εἰσαγω[---]

Bitumen. Height 12 mm., width 14 mm.; face complete, but legend incomplete, apparently as a result of the careless application of the stamp. Traces of characters, out of position, indicate that the stamp may have been applied twice. Symbol, half anchor.

No. 14. [άν]δραποδικῆς

Bitumen. Height 5 mm., width 16 mm. The type of the impression has been almost entirely destroyed. Beneath the line of legend, at the edge of the break in the face, traces of a bar can be seen, apparently a part of a symbol with which the legend was associated. Note the position of the final two letters of the legend. Three seal impressions, two of which have been made by the same seal.

No. 15. [άν]δραποδικῆς | [---]

Clay. Height 17 mm., width 19 mm.; face complete but badly abraded. The second line is entirely illegible. Between the two lines of legend, and occupying the center of the face, is a group of symbols. They are very obscure, but one appears to have the form of a jar, another is possibly an anchor, complete.

No. 16. λιμένο[ς?] | σ MP | ]α[

Bitumen. Height 11 mm., width 17 mm.; face complete. Some of the characters of the legend have been badly distorted, apparently by the action of heat. The second and third characters of the second line are written closely together, and are well centered. They are clearly numerals of the date. The first character appears to be somewhat dissociated from the other two. It is either a reversed zeta, forming a part of the date, or the final sigma of the first line, brought down as the initial character of the second line. The third line is almost entirely illegible. It appears to have contained not more than five characters.

No. 17. [ένκ]υκλιοφυλακιός

Bitumen. Height 26 mm., width 16 mm.; face complete. The type of the impression is a tripod-lebes. Professor Rostovtzeff reads the legend as βυβλιοφυλακιός Two seal impressions.

No. 18. [---]λακων, or, [---]αλκων

Bitumen. Height 26 mm., width 26 mm.; face complete, but

partially obscure. The type of the impression is a portrait head, with the legend to the left, reading up. The legend has been restored by Professor Rostovtzeff as [χρεοφυ]λάκων Four seal impressions.

No. 19. καταγραφῆ[ς]

Bitumen. Height 10 mm., width 26 mm. The type of the impression has been entirely destroyed. On another face of the fragment is a portrait head, apparently similar to that which appears on No. 18, but with no legend visible.

No. 20. ἀλικῆ[ς] | Σελευκίας | ΔΚΡ | ἀτελῶν

Clay. Height 13 mm., width 18 mm.; face complete, slight abrasion. Forms a pair with No. 21. Symbol, half anchor. One seal impression.

No. 21. ἀλικῆ[ς] | Σελευκ[ίας] | ΔΚΡ | ἀτελῶν

Clay. Height 14 mm., width 17 mm.; face complete. The stamp apparently slipped when applied, as traces of lettering show, out of position, toward the right edge, and a part of the face is left blank. Forms a pair with No. 20. Symbol, half anchor.

No. 22. ἀλικῆς | ΕΚΡ | Σελευκία[ς] | ἀτελῶν

Clay. Height 14 mm., width 17 mm.; face complete, some abrasion. Note position of the date as the second line of the legend. Forms a pair with No. 23. Symbol, half anchor. One seal impression.

No. 23. ἀλικῆς | ΕΚΡ | Σελευκία[ς] | ἀτελῶν

Clay. Height 13 mm., width 17 mm.; face complete. Forms a pair with No. 22. Symbol, half anchor.

No. 24. ἀλικῆς | Σελευκ[ίας] | Σ | Κ [P] | [ἀτελῶν]

Clay. Height 11.5 mm., width 15 mm.; lower part of the face missing, and much of the rest abraded. The initial numeral of the date is incomplete. I read it as Z, the numeral seven, reversed as it appears on the legends Nos. 59 and 60. The same form appears on some of our Parthian coins. One seal impression.

No. 25. ἀλικῆς | Σελευκία[ς] | ΗΚ[P] | ἀτελῶν

Clay. Height 14 mm., width 19 mm.; a portion of the lower part of the face is missing, and there is considerable abrasion. Two seal impressions.

No. 26. ΘΚΡ | ἀλικῆς | Σελευκ[ίας] | ἀτελῶν

Clay. Height 13 mm., width 18 mm.; face complete but worn. Note position of the date as the first line of the legend. Forms a pair with No. 27. Symbol, half anchor. One seal impression.

No. 27. ΘΚΡ | ἀλικῆ[ς] | Σελευκίας | ἀτελῶν

Clay. Height 13 mm., width 16 mm.; face complete but cracked. Forms a pair with No. 26. Symbol, half anchor.

No. 28. ἀλικῆ[ς] | Σελευκ[είας] | ΛΡ | ἀτελῶν

Clay. Height 13 mm., width 16 mm.; face complete but abraded. Forms a pair with No. 29. Two seal impressions.

No. 29. ἀλικῆ[ς] | Σελευκεία[ς] | Λ[Ρ] | [ἀτελῶν]

Clay. Height 8 mm., width 16 mm.; the bottom, and a part of the right edge, of the face missing. Forms a pair with No. 28. One seal impression.

No. 30. ἀλικῆς | Σελευκε[ίας] | ΑΛΡ | ἀτελῶ[ν]

Clay. Height 13 mm., width 15 mm.; face complete but right portion abraded. Forms a pair with No. 31. Symbol, half anchor. Three seal impressions.

No. 31. ἀλικῆς | Σελευκεία[ς] | ΑΛΡ | ἀτελῶν

Clay. Height 13 mm., width 17 mm.; face complete. Forms a pair with No. 30. Symbol, half anchor.

No. 32. ἀλικῆς | Σελευκείας | ΒΛΡ | ἀτελῶν

Clay. Height 12 mm., width 18 mm.; face complete. Forms a pair with No. 33. Symbol, half anchor. One seal impression.

No. 33. ἀλικῆς | Σελευκεία[ς] | ΒΛΡ | ἀτελῶν

Clay. Height 12 mm., width 16 mm.; face complete. Forms a pair with No. 32. Symbol, half anchor.

No. 34. ἀλικῆς | Σελευκεί | ας ΓΛ[Ρ] | ἀτελῶν

Clay. Height 13 mm., width 15 mm.; face complete. The final two letters of the city-name occur as the initial letters of the following line. Forms a pair with No. 35. Two seal impressions.

No. 35. ἀλικῆς | Σελευκεί|ας ΓΛΡ | ἀτελῶν

Clay. Height 12 mm., width 15 mm.; face complete. Forms a pair with No. 34.

No. 36. [ἀ]λικῆς | [Σε]λευκείας | ΔΛΡ | [ἀτε]λῶν

Clay. Height 10 mm., width 15 mm.; face complete but too small to receive the impression of the entire stamp. The right hand diagonal stroke of the first numeral can just be made out. Forms a pair with No. 37. Symbol, half anchor.

No. 37. [ἀλ]ικῆς | [Σε]λευκεία[ς] | [Δ]ΛΡ | [ἀτε]λ[ῶν]

Clay. Height 10 mm., width 12 mm.; face complete but too small for the stamp. The two legends, Nos. 36 and 37, are impressed on a single complete bulla and form a pair. Symbol, half anchor. Three seal impressions on the bulla.

No. 38. ἀλικῆς | Σελευκεία[ς] | ΕΛΡ | ἀτελῶν

Bitumen? Height 13.5 mm., width 16 mm.; face slightly broken and cracked. Forms a pair with No. 39. Symbol, half anchor.

No. 39. ἀλικῆς | Σελευκε[ίας] | ΕΛ[Ρ] | ἀτελ[ῶν]

Bitumen? Height 11 mm., width 15 mm.; the lower and the right edges of the face broken. Forms a pair with No. 38. One seal impression.

No. 40. ἀλικῆς | Σελευκεία[ς] | ΓΑΡ | ἀτελῶν

Clay. Height 11 mm., width 17 mm.; face complete. Forms a pair with No. 41. Symbol half anchor. Two seal impressions.

No. 41. ἀλικῆς | Σελευκείας | ΓΑΡ | ἀτελῶν

Clay. Height 11 mm., width 19.5 mm.; face complete. Forms a pair with No. 40. Symbol, half anchor.

No. 42. ἀλικῆς | Σελευκεί[ας] | ΖΑΡ | ἀτελῶν

Clay. Height 13 mm., width 17 mm.; right edge of face slightly broken. Forms a pair with No. 43.

No. 43. ἀλικῆ[ς] | Σε[λ]ευκ[είας] | ΖΛ[P] | ἀτελῶ[ν]

Clay. Height 13 mm., width 14 mm.; face complete but too small for the stamp. The kappa of the city-name and the second numeral of the date can be discerned beyond the right edge of the face, on the adjoining facet. Forms a pair with No. 42. Three seal impressions.

No. 44. ἀλικῆς | Σελευκ[είας] | ΗΑΡ | ἀτελῶν

Clay. Height 15 mm., width 18 mm.; face complete. The last line is not parallel to the others. Symbol, half anchor.

No. 45. ἀλικ[ῆς] | Σελε[υκ]είας | ΘΛ[P] | ἀτε[λῶν]

Clay. Height 11 mm., width 16 mm.; face badly abraded. Forms a pair with No. 46. Symbol, half anchor.

No. 46. [ἀλικ]ῆ[ς] | Σελευκ[είας] | ΘΛ[P] | [ἀτε]λῶ[ν]

Clay. Height 12 mm., width 18 mm.; face badly abraded. Forms a pair with No. 45. Symbol, half anchor.

No. 47. ἀλικῆς | Σελευκ[είας] | ΜΠ | ἀτελ[ῶν]

Clay! Height 11 mm., width 15 mm.; face chipped and abraded. Between the two numerals may be seen faint traces of characters, which give the impression that the stamp had been applied twice. Forms a pair with No. 48. Two seal impressions.

No. 48. ἀλικῆς | Σελευκ[είας] | ΜΠ | ἀτελῶ[ν]

Clay! Height 11 mm., width 14 mm.; face complete but gouged. Forms a pair with No. 47. Symbol, half anchor. Two seal impressions.

No. 49. ἀλικῆς | Σελευκεία[ς] | ΒΜΡ | [ἀ]τελῶν

Bitumen! Height 13 mm., width 19 mm. The face is complete but its center has been damaged, apparently by the tearing out of the string to which the bulla had been attached. Forms a pair with No. 50. Symbol, half anchor. One seal impression.

No. 50. [ἀλι]κῆς | [Σε]λευκ[είας] | ΒΜΡ | [ἀ]τελῶν

Bitumen! Height 13 mm., width 19 mm.; face complete but chipped. Forms a pair with No. 49. Symbol, half anchor.

No. 51. ἀλικῆς | Σελευκ[είας] | ΓΜΡ | ἀτελῶν

Bitumen. Height 13.5 mm., width 18 mm.; face complete but

too small for the stamp. Forms a pair with No. 52. Symbol, half anchor. One seal impression.

No. 52. ἀλικῆς | Σελευκείας | ΓΜΡ | [άτε] λῶν

Bitumen. Height 14 mm., width 19 mm.; face complete but abraded. Forms a pair with No. 51. Symbols, half anchor and, to its right, apparently caduceus. One seal impression.

No. 53. [ά]λικῆς | Σελευκείας | ΔΜΡ | ἀτελῶν

Bitumen. Height 15 mm., width 21 mm.; face complete. Forms a pair with No. 54. Symbols, half anchor and, to its right, star. One seal impression.

No. 54. [ά]λικῆς | Σελευκείας | ΔΜΡ | ἀτ[ελῶν]

Bitumen. Height 10 mm., width 21 mm.; face broken at bottom. Forms a pair with No. 53. Symbols, half anchor and star. Two seal impressions.

No. 55. ἀλικῆς | Σελευκε[ίας] | ΕΜΡ | ἀτελῶν

Bitumen? Height 14 mm., width 16 mm.; face complete but too small for the stamp. Forms a pair with No. 56. Symbol, half anchor. One seal impression.

No. 56. ἀλικῆς | Σελευ[κείας] | ΕΜΡ | ἀτελῶν

Bitumen? Height 14 mm., width 20 mm.; face complete but abraded. Forms a pair with No. 55. Symbol, half anchor.

No. 57. [άλ]ικῆς | Σελευκε[ίας] | ΓΜΡ | ἀτελῶ[ν]

Bitumen. Height 14.5 mm., width 18 mm.; upper left corner of the face missing, and abrasion on the portion to the right. Forms a pair with No. 58.

No. 58. ἀλικῆς | Σελευκεία[ς] | ΓΜ[P] | [άτελῶν]

Bitumen. Height 9.5 mm., width 19 mm.; the bottom and a part of the right edge of the face missing. Forms a pair with No. 57. One seal impression.

No. 59. [ά]λικῆς | [Σ]ελευκε[ίας] | ΣΜΡ | ἀτελῶν

Bitumen. Height 16 mm., width 18 mm.; face practically complete. Note the reversed form of the numeral seven. Forms a pair with No. 60. Symbol, half anchor.

No. 60. [ά]λικῆς | Σελευκεία[ς] | ΣΜΡ | ἀτελῶν

Bitumen. Height 16 mm., width 17 mm.; edges of face chipped. Forms a pair with No. 59. Symbol, half anchor.

No. 61. ἀλικῆς | Σελευκε[ίας] | ΗΜΡ | ἀτελῶν

Bitumen? Height 12 mm., width 18.5 mm. The face is complete but the right portion has been smeared while the material was soft. Forms a pair with No. 62. Symbol, half anchor.

No. 62. ἀλικῆ[ς] | Σελευκ[είας] | ΗΜ[P] | ἀτελῶ[ν]

Bitumen? Height 12 mm., width 17.5 mm.; face complete but chipped and abraded. Forms a pair with No. 61.

No. 63. ἀλικῆς | Σελευκεία[ς] | ΘΜΡ | ἀτελῶν

Bitumen. Height 14 mm., width 22.5 mm.; face complete.

Forms a pair with No. 64. Symbol, half anchor.

No. 64. ἀλικῆς | Σελευκεία[ς] | ΘΜΡ | ἀτελῶν

Bitumen. Height 13 mm., width 22 mm.; face complete. Forms a pair with No. 63. Symbol, half anchor. One seal impression.

No. 65. ἀλικῆς | Σελευκεία[ς] | Ν[Ρ] | ἀτελῶν

Bitumen. Height 14.5 mm., width 20.5 mm.; face complete.

Symbols, half anchor and star, as on Nos. 53 and 54.

No. 66. ἀλικῆς | Σελευκεία[ς] | ΑΝΡ | ἀτελῶν

Bitumen. Height 13 mm., width 19.5 mm.; face complete. Apparently forms a pair with No. 67. Symbol, half anchor.

No. 67. [ἀλικῆς] | [Σε]λευκείας | [Α]ΝΡ | [ά]τελῶν

Bitumen. Height 11.5 mm., width 16.5 mm.; left portion of the face missing. The first numeral of the date is lost. Since this impression appears to be in all respects like that of No. 66, it is assumed that they form a pair. Symbol, half anchor.

No. 68. ἀλικῆς | Σελευκείας | ΒΝΡ | ἀτελῶν

Clay. Height 13.5 mm., width 19.5 mm.; face complete. Forms a pair with No. 69. Symbol, half anchor.

No. 69. ἀλικῆς | Σελευκείας | ΒΝΡ | ἀτελῶν

Clay. Height 13 mm., width 20 mm.; face complete. Forms a pair with No. 68. Symbol, half anchor.

No. 70. ἀλικῆς[ς] | Σελε[υ]κείας[ς] | ΓΝΡ | ἀτελῶν

Bitumen. Height 13.5 mm., width 16 mm.; face complete but too small for the stamp. Apparently forms a pair with No. 71. Symbol, half anchor.

No. 71. ἀλικ[ῆς] | Σελευ[κείας] | Γ[Ν]Ρ | ἀτελῶν

Bitumen. Height 14 mm., width 17 mm.; face chipped in places and the center worn smooth. The second numeral of the date is restored as N on the grounds that No. 71 appears to be exactly like No. 70, and that the pairs for the years ΓΛΡ, and ΓΜΡ, are complete, while the series of KP dates are impressed on light colored clay instead of on bitumen as is this impression. One seal impression.

No. 72. ἀλικ[ῆς] | Σελευκείας | ΔΝΡ | [άτ]ελῶν

Bitumen. Height 14 mm., width 19.5 mm.; face slightly chipped. Forms a pair with No. 73. Symbol, half anchor.

No. 73. [ἀλικῆς] | Σε[λευκείας] | ΔΝΡ | ἀτελῶν

Bitumen. Height 9 mm., width 11.5 mm.; upper and right portions of the face missing. Forms a pair with No. 72.

No. 74. [ἀλ]ικῆς | Σελευκείας | ΕΝΡ | [ά]τελῶν

- Bitumen ? Height 15 mm., width 18 mm.; face slightly chipped.  
Symbol, half anchor.
- No. 75. ἀλικῆς | Σελευκεία[ζ] | GNP | ἄτελῶ[ν]  
Clay. Height 12 mm., width 17 mm.; face complete but worn at center. The second numeral of the date is obscure, but the reading N appears to be called for. One seal impression.
- No. 76. ἀλικῆς | Σελευκείας | ZNP | ἄτελῶν  
Clay. Height 15 mm., width 20 mm.; face complete. Forms a pair with No. 77. Symbol, half anchor.
- No. 77. ἀλικῆς | Σελευκείας | ZNP | ἄτελῶν  
Clay. Height 12.5 mm., width 19 mm.; face complete. Forms a pair with No. 76. Symbol, half anchor.
- No. 78. ἀλικῆς | Σελευκείας | HNP | ἄτελῶν  
Clay. Height 14 mm., width 18 mm.; face complete. Forms a pair with No. 79. Symbol, half anchor.
- No. 79. ἀλικῆς | Σελευκείας | HNP | ἄτελῶν  
Clay. Height 14 mm., width 19 mm.; face complete. Forms a pair with No. 78. Symbol, half anchor.
- No. 80. ἀλικῆς | Σελευκεί[ας] | ΘNP | ἄτελῶν  
Clay. Height 14 mm., width 16 mm.; face complete but abraded. Symbol, half anchor.

## PLATES

### Plate I. Bullae and tablets.

1. Two bullae. Oriental Institute (Chicago). Slightly reduced.
2. Bullae and clay tablets. Kaiser Friedrich Museum (Berlin). Reduced.

### Plate II. Impressions of private seals on bullae.

1. Oriental Institute (Chicago), No. A 3911. Enl.
2. Oriental Institute (Chicago), No. A 3762. Enl.
3. Kaiser Friedrich Museum (Berlin), No. VA 6063. Enl.
4. (a) Yale Babylonian Collection (New Haven), No. 3158. N. S.  
(b) Oriental Institute (Chicago), No. A 4005. Enl.
- 5-6. Louvre (Paris), No. 808. N. S.

### Plate III. Impressions of private seals on bullae.

1. Oriental Institute (Chicago), No. A 3760. Enl.
2. Oriental Institute (Chicago), No. A 3404. Enl.
3. Yale Babylonian Collection (New Haven), No. 3083. Enl.
4. Oriental Institute (Chicago), No. A 3837. Enl.
5. Yale Babylonian Collection (New Haven), No. 3160. N. S.
6. Cabinet des Médailles (Paris). N. S.

### Plate IV. Portraits of the Seleucids.

1. Bulla. Cat. No. 1. Enl.
2. Bulla. Cat. No. 3. N. S.
3. Silver coins of Seleucus III and Antiochus III. E. T. Newell Coll. N. S.
4. Bulla. Cat. No. 4. N. S.
5. Copper coins of Antiochus IV and Antiochus III. E. T. Newell Coll. N. S.
6. Bulla. Cat. No. 5. N. S.
7. Clay cameo of Seleucus IV. Cabinet des Médailles (Paris). N. S.
8. Silver coin of Seleucus IV. Cabinet des Médailles (Paris).
9. Clay cameo of Antiochus I or Antiochus II (?). Cabinet des Médailles (Paris).

### Plate V. Portraits of the Seleucids.

1. Bulla. Cat. No. 8. N. S.
2. Clay seal. Cat. No. 67. Enl.
3. Copper coins of Antiochus I and Antiochus IV. E. T. Newell Coll. N. S.
4. Clay seal. Cat. No. 68. Enl.
5. Silver coin of Demetrius I. E. T. Newell Coll. N. S.
6. Clay seal. Cat. No. 69. N. S.
7. Copper coin of Timarchus. E. T. Newell Coll. N. S.

**Plate VI. Portraits of the Seleucids.**

1. Clay seal. Cat. No. 70. N. S.
2. Clay seal. Cat. No. 70. Enl.
3. Copper coin of Seleucus I. E. T. Newell Coll. N. S.
4. Copper coin of Demetrius II. Br. Mus. N. S.
5. Bulla. Cat. No. 12. Enl.
6. Silver coin of Demetrius II. Br. Mus. N. S.
7. Bulla. Cat. No. 13. N. S.
8. Bulla. Cat. No. 14. Enl.
9. Clay seal. Cat. No. 71. Enl.
10. Bulla. Cat. No. 15. N. S.
11. Clay seal. Cat. No. 72. Enl.

**Plate VII. Gods and heroes.**

1. Copper coins of Antiochus III and Antiochus I or II. E. T. Newell Coll. N. S.
2. Bulla. Cat. No. 18. Enl.
3. Bulla. Cat. No. 35. Enl.
4. Bulla. Cat. No. 43. N. S.
5. Clay seal of the Upper Kilbiani in Asia Minor. Br. Mus. N. S.
6. Silver coins of Seleucus II. E. T. Newell Coll. N. S.
7. Copper coins of Seleucus IV. (a) Cabinet des Médailles. (b) E. T. Newell Coll. N. S.
8. Bulla. Cat. No. 48. N. S.
9. Copper coins of Antiochus IV. (a) Cabinet des Médailles. (b) E. T. Newell Coll. N. S.

**Plate VIII. Gods and symbols.**

1. Bulla. Cat. No. 54. Enl.
2. Bulla. Cat. No. 55. Enl.
3. Copper coin of Alexander Balas. E. T. Newell Coll. N. S.
4. Silver coin of Demetrius II. Br. Mus. N. S.
5. Clay seal. Cat. No. 76. Enl.
6. Clay seal. Cat. No. 75. Enl.
7. Clay seal. Cat. No. 78. N. S.
8. Copper coin of Demetrius II. Br. Mus. N. S. (R of Pl. VI, 4).
9. (a) Copper coin of Antiochus I. E. T. Newell Coll. N. S.  
(b) Bulla. Cat. No. 58. N. S.
10. Copper coins of Seleucus I. (a) E. T. Newell Coll. (b) Br. Mus. N. S.
11. Clay seal. Cat. No. 80. Enl.

**Plate IX. Symbols and tax stamps.**

1. Clay seal. Cat. No. 79. Enl.
2. (a, b) Copper coins of Seleucus I. (a) E. T. Newell Coll. (b) Br. Mus. N. S. (c) Copper coin of Antiochus II. Br. Mus. N. S.
3. Clay seal. Cat. No. 81. Enl.

4. Bulla. Cat. No. 16. N. S.
5. Bulla. Cat. No. 16. N. S.
6. Bulla. Cat. No. 17. Enl.
7. Bulla. Cat. No. 19. Enl.
8. Bulla. Cat. No. 20. Enl.
9. Bulla. Cat. No. 22. Enl.
10. Bulla. Cat. No. 23. Enl.

Plate X. Tax stamps.

1. Bulla. Cat. No. 24 (a, c.—Enl.; b.—N. S.).
2. Bulla. Cat. No. 25. Enl.
3. Bulla. Cat. No. 26. N. S.
4. Bulla. Cat. No. 42. Enl.
5. Bulla. Cat. No. 61. N. S.
6. Bulla. Cat. No. 51. Enl.
7. Bulla. Cat. No. 61. N. S.
8. Bulla. Cat. No. 65. N. S.
9. Bulla. Cat. No. 66. N. S.

Plate XI. Bullae.

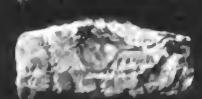
1. Bulla. Cat. No. 64. N. S.
2. Bulla. Cat. No. 62. N. S.
3. Bulla. Cat. No. 63. N. S.
4. Bullae from Seleucia on the Tigris. University Mus., Michigan University (Ann Arbor). Enl.



1



2



a



b



c



d



e



## PLATE I

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1



2



3



a 4 b



5



6



1



2



3



4



5



6

PLATE III

Digitized by Google



1



2



3



4



5



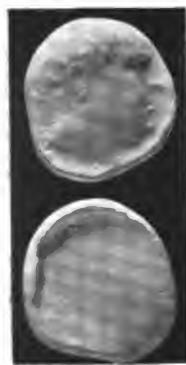
6



7



8



9

## PLATE IV



1



2



3



4



5



6



7

## PLATE V

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1



2



3



4



5



6



8



7



9



10



11

PLATE VI



1



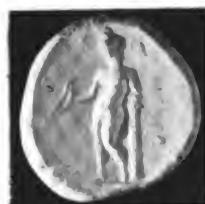
2



3



4



5



6



a



8



a



b

7



b

9

## PLATE VII

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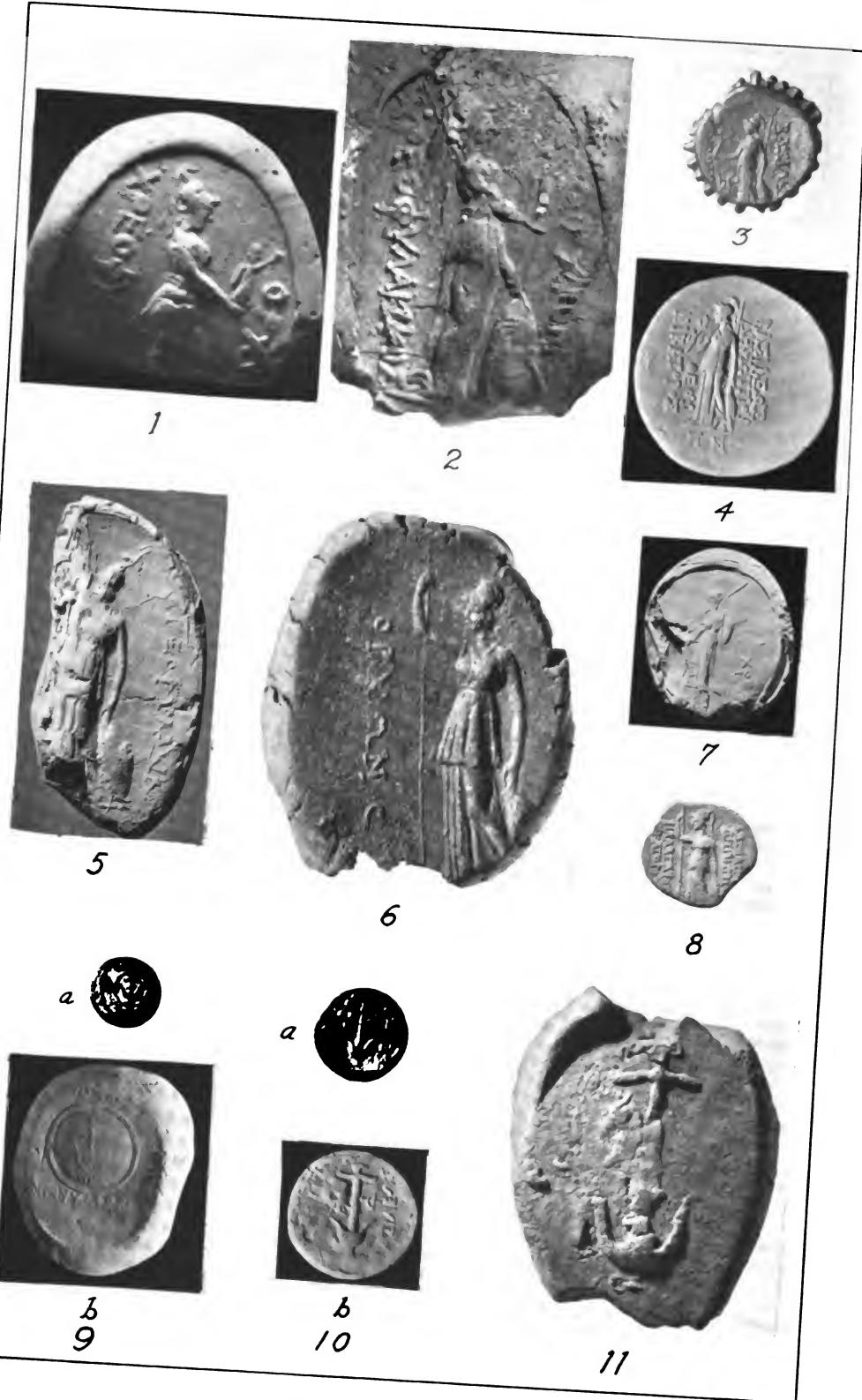


PLATE VIII



1



a



b



3



4



5



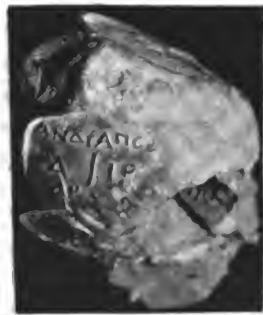
6



7



8



9



10

## PLATE IX



a



b  
1



c



2



3



4



5



6



7



8



9

PLATE X



1



2



3



4



A NEO-PYTHAGOREAN SOURCE IN  
PHILO JUDAeus

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BY ERWIN R. GOODENOUGH



## A NEO-PYTHAGOREAN SOURCE IN PHILO JUDAeus

**A**N interesting source problem is still to be solved in connection with Philo's *Quis rerum divinarum heres*,<sup>1</sup> §§130 ff. The treatise is one of his rambling allegorical discussions of scriptural passages, to the second part of which, the part in which we are to be interested, applies a subtitle καὶ περὶ τῆς εἰς ἵσα καὶ ἐναντία τοῦτος. This section is an elaborate allegorization of the biblical phrase, "He divided them in the middle, and laid the pieces opposite each other" (Gen. 15.10). Philo states his text, and gives the following summary of what he is about to say:

Then he (Moses) adds, "He divided them in the middle," but does not say who did so, that you may understand that it was the indemonstrable (*ἀδεικτος*) God who cut (*τέμνοντα*) in succession all the natures (*φύσεις*) of bodies and things which seem to have been joined and united, using therefor his Logos, the Cutter (*τομεύς*) of all things, which never ceases dividing, for it is whetted down to the keenest edge. For when it has divided all sensible objects down into the atoms and so-called indivisibles, this Cutter begins after these to divide the objects apprehended by reason into an unspeakably large, indeed unlimited, number of parts,<sup>2</sup> and "cuts the thin plates of gold into hair," as Moses says, making them into length without breadth, like incorporeal lines (§§130, 131).

This is a universal process which Philo illustrates by the divisions in the human constitution :

So it divides each of the three (parts of the human constitution), the soul into the reasoning and unreasoning part, the reason into true and false, and sense-perception into that form of conception (*φαντασία*) which adequately apprehends its object, and that which does not do so<sup>3</sup> (§132).

Philo goes on to say that these divisions are then set into opposition to each other, become "opposites." The only part of the

<sup>1</sup> Hereafter referred to as *Quis Heres*.

<sup>2</sup> τὰ λόγῳ θεωρητὰ εἰς ἀμυθήτους καὶ ἀπεριγράφους μοίρας.

<sup>3</sup> On this Stoic distinction of the καταληπτικὴ φαντασία καὶ ἀκατάληπτος see the note *ad. loc.* by Cohn, in his translation of this treatise in *Die Werke Philos von Alexandria in deutscher Uebersetzung*, edited now by I. Heinemann, V (1929), pp. 214 ff.

human constitution not so divided is the immaterial and divine part, the ἐποιημα, since there can be no qualification in the genuineness of ἐποιημα, and hence no division of them into mutually contradictory opposites.

As it was in the human constitution, so it was in the universe (§133). Over against matter was the Cutter, which by divisions made all things. First it divided raw matter into the light and heavy, then divided each of these in turn and produced the four elements. Each of these was again divided, earth into mainland and islands, water into sea and rivers and everything potable, air into the changes of summer and winter, fire into the destructive and constructive. The process of division kept on until it had produced animate and inanimate objects, wild and cultivated fruits, wild and tame animals, male and female, reasoning and unreasoning, etc.

So, after having sharpened the Cutter of all things, his Logos, God divided the substance (*οὐσία*) of all things, in itself formless and without quality; he divided the four elements of the Cosmos which had themselves been separated out of this substance, and the plants and animals made in turn out of the elements (§140).

This division, he assures us, is done with superhuman and meticulous accuracy, so that the halves are always equal down to the last atom. Indeed the whole point of his discussion is to show that the world has *ἰσότης*, equality, as its fundamental principle, and that true *ἰσότης* is a prerogative of God alone (through the instrumentality of the “Cutter”).

But there are several forms of equality:

For the term “equal” is used in one way with respect to numbers, as that two equals two, three equals three, and the other numbers similarly; but in another way with respect to spacial magnitudes, in whose dimensions are length, breadth, and depth. For palm may equal palm,<sup>4</sup> or cubit cubit, in magnitude, but not in value, as is the case also with things weighed and measured out. A necessary form of equality is also the proportional, by which also a few things can be regarded as equal to many, and small to great. Cities also have from time to time been accustomed to make use of this proportional equality when they bid each citizen bring an equal amount of his property, not of course equal by count (*ἀριθμῷ*) but by proportion of the amount of property to the

<sup>4</sup> παλαιστής, an Alexandrian form of παλαστῆ, a measure of about three inches. The idea seems to be that a yard of cotton equals a yard of silk, a pound of lead equals a pound of gold, in measure but not in value.

tax-rate; so he who pays one hundred drachmae would seem to contribute an equal sum with him who pays a talent (§§144, 145).

Philo now goes on to show how equality in all these senses is a universal principle. Among many illustrations he points to the cycles of varying length of day and night as an instance of the preservation of actual arithmetic equality between dark and light (§§146 ff.). He gets beyond his depth in trying to show the presence of proportional or geometric equality in the universe, but he makes clear that in the world as a whole fire is to air as air to water as water to earth, though in just what sense he does not explain. In the human constitution is to be found the same proportional equality between the dry, hot, cold, and moist elements (§153). By using proportional equality, then, Philo can assert that *ἴσότης* is everywhere in the universe. The swallow and the eagle, the herring and the whale, the ant and the elephant, man and the universe, pains and pleasures, attractions and repulsions, all equal each other by proportional equality. Thus:

The art (*τέχνη*) of God, by which he created all things, can be drawn at neither too great or too little tension, and remaining thus fixed, after the principle of extremes in excesses (*κατὰ τὴν ἐν ὑπερβολαῖς ἀκρότητα*),<sup>5</sup> it created everything perfectly, for the maker used all numbers and all the forms which are in the highest degree perfect (§156).

So the world is good as a whole, not because of any virtue in the matter out of which God made the world, which was "inanimate, discordant, and capable of dissolution, besides being in its own nature perishable, and lacking in all proportion and equality," into a product "made homogeneous (*δημοιαν*) and stable (*τὴν αὐτήν*) with reference to a single equal and equitable power and science (*κατὰ μίαν ἴσην καὶ διμαλήν δύναμιν καὶ ἐπιστήμην*)" (§160).

Philo goes on from this remarkable account of creation to show how Moses has recognized the universality of *ἴσότης*, and how it is everywhere at the bottom of Jewish laws. He also tries to indi-

<sup>5</sup> I suspect the text here, for it is hard to make sense. Cohn translates it "mit höchster Genauigkeit," Yonge, "according to its own excessive and consummate perfection." The phrase as it stands recalls Aristotelian moral terminology, where *ἀρετή* was in mean proportion between the *ἀκροί*, *ὑπερβολή* and *ἔλλειψις*; see *Eth. N.*, 1108 a, 4 ff. Cohn rightly notes that the passage is a Pythagorean comparison of the universe to a well-tuned lyre. One is reminded of the Ps.-Hippocratean *De Victu*, 10: ἐνī δὲ λόγῳ πάντα διεκοσμήσατο κατὰ τρέπον αὐτὸν ἔωυτῷ τὰ ἐν τῷ σώματι τὸ πῦρ, ἀπομίμησιν τοῦ ὅλου, μικρὰ πρὸς μεγάλα καὶ μεγάλα πρὸς μικρά.

cate briefly the harmony between this and Moses' account of creation. Into that extended discussion we need not go. It is enough to say that the passages of the Old Testament which Philo selects for discussion are obviously adapted to his theory of equality, rather than that theory in any important detail derived from the Old Testament passages.

At last he returns to his original text to discuss the fact that the pairs, after having been divided, "were placed opposite to one another." This leads Philo to state that nearly all things which exist in the world are ἐναντία. Hot is opposite to cold, sweet to bitter, rational to irrational, disease to health, wisdom to folly, barrenness to fertility, love of solitude to gregariousness, to give only a few of Philo's instances (§§207 ff.). So Moses teaches us, says Philo,

the fact that each thing is placed in opposition (to something else), not as wholes, but by virtue of their being segments ( $\tau\mu\mu\acute{a}t\omega\nu$ ) (sc. of a whole). For a single given thing consists of two opposing parts, and when it is cut ( $\tau\mu\theta\acute{e}n\tau\omega\nu$ ) the contrary parts become recognizable ( $\gamma\nu\omega\rho\mu\alpha$ ). Is not this the teaching, as the Greeks say, which their great and renowned Heraclitus boasted as a new discovery, and put at the head of his philosophy? For it was an ancient discovery of Moses that contraries are made after the manner of divisions of a single entity ( $\tau\delta\ \acute{\epsilon}\kappa\ \tau\omega\nu\ \alpha\acute{u}t\omega\ \tau\delta\ \acute{\epsilon}\nau\tau\iota\ \tau\mu\mu\acute{a}t\omega\nu\ \lambda\acute{o}y\omega\nu\ \acute{\epsilon}\xh{o}nt\omega\ \acute{\alpha}\p{o}t\acute{e}l\acute{e}\i\acute{s}\theta\omega\nu$ ), as has been clearly shown. (§§213 f.)

Philo goes on from here to discuss for a little the symbolism of the seven days and seven branches of the candlestick, for here he finds typified the fact that in addition to the equal division, three and three, there is always between these threes the Cutter, making the division. So, as Cohn has expressed it, the opposites for Philo condition and necessitate each other.<sup>6</sup> But the Cutter which divides them is at the same time the principle of union:

For the divine powers go right through the middles and matters and materials, and while they destroy nothing, since the bisections remain undisturbed, yet they distinguish and separate very beautifully the natures of the individual phenomena.<sup>7</sup>

The opposites are united in harmony by a rigid bond, that of

<sup>6</sup> *Philo's Werke*, V, 215. See the beautiful expression of this idea in *Cherub*. 110 ff. to which Cohn refers.

<sup>7</sup> §312: αἱ θεῖαι δυνάμεις διὰ μέσων καὶ πραγμάτων καὶ σωμάτων ιοῦσαι φθείρουσι μὲν οὐδέν,—μέντι γάρ ἀπαθῆ τὰ διχοτομήματα,—, διαιροῦσι δὲ καὶ διαστέλλουσι σφόδρα καλῶς τὰς ἐκάστων φύσεις.

spiritual lyre strings (*πνευματικοὶ τόνοι*) (§242), where Philo is rather laboring his Heracleitean figure, but is clear enough.

In all of this discussion Philo is obviously trying to fit a definite conception of the Logos and creation, of equality and bisection, into the Torah. The probabilities are strong in this case that he not only is adapting to the Bible a definite theory of the universe, not original with himself, but that he is following a written source which would seem to have had the title Περὶ τῆς εἰς Ἰσα καὶ Ἐναντία τοῦπος. For in §133, almost at the outset of the discussion, he says:

Since the discussion of cutting into equal divisions and of contraries is of very great importance we shall neither pass it by nor tarry in it too long, but abbreviate it as much as possible (ὡς ἔστιν ἐπιτέμνοντες), and content ourselves with only the chief points.

The allusion would seem to be to a document in which there was at least a reference to Heracleitus, for a parallel account is extant in another of Philo's treatises, the *Quaestiones in Genesin*,<sup>8</sup> III, 5, where the same scriptural verse is under discussion. Again the same line of argument is deduced from it, with some slight differences of detail and in much briefer compass, with the remark at the end :

Hence Heracleitus wrote books on Nature, borrowing the theory of contraries from our historian (Moses), with the addition of an infinite number of laborious arguments.

The passages have many times been discussed. Heinze, with his usual acumen, says of Philo and Heracleitus: "Wiewohl die Grundanschauungen der beiden Philosophen ganz verschieden sind, so ist doch die Lehre von dem Streit als bewegendem Prinzip, von dem πόλεμος als Vater aller Dinge und dessen Identität mit dem Logos offenbar aus der Lehre Heraklits auf den Alexandriner übergegangen."<sup>9</sup> While I cannot agree that the identity of πόλεμος with the Logos can with any confidence be ascribed to Heracleitus, at least in any sense of the word comparable to Philo's, Heinze seems to me to have stated the problem very succinctly: there is a definite connection, near or remote, between Heracleitus' idea of opposites and this section of Philo. But in the transition from one philosopher to the other the idea has become changed from its original character, so as to fit into a phi-

<sup>8</sup> Hereafter abbreviated as *Quaest. Gen.*

<sup>9</sup> *Lehre vom Logos* (1872), p. 228; see pp. 11, 226-229.

losophy fundamentally different. The problem is, then, whether we can trace any of the intermediate steps.

Bousset<sup>10</sup> discussed the matter of parallels between the Philonic theory of the elements as each divided into contraries and a similar theory of the Egyptians (which Reitzenstein<sup>11</sup> has ascribed specifically to Chaeremon) quoted in Seneca, *Nat. Quaest.*, III, xii, 2. Here Seneca says that the Egyptians divided each of the four elements into male and female; and so in the case of air the male is wind, the female quiet air; in water the sea is male, other water female; in fire that which consumes is male, that which glows without burning is female; in earth rocks and boulders are male, arable land is female. Bousset has traced out each of these contrasts in Philo's writing, either in the passages we are discussing, or elsewhere, and concludes that Philo had this source to which Seneca refers, which Reitzenstein had described as a mingling of Egyptian ideas of the gods with Stoic speculation. Bousset thinks that Reitzenstein is too sure of the Stoic contribution. For while the twofold fire may be Stoic (though since it is found also in Manichaeism and Mandaeism he is not sure that it originated in Stoicism), the combination of ideas represented in this "Egyptian" tradition of the elements may have been worked out in a Hermetic rather than in a Stoic environment. So he quotes the Hermetic statement in Pseudo-Iamblichus, *De Myster.*, VIII, 3: Εστι δὴ οὐν καὶ ἄλλη τις ἡγεμονία παρ' αὐτοῖς τῶν περὶ γένεσιν δλῶν στοιχείων καὶ τῶν ἐν αὐτοῖς δυνάμεων, τεττάρων μὲν ἀρρενικῶν τεττάρων δὲ θηλυκῶν, ἥντινα ἀπονέμουσιν ἡλίῳ. But Bousset adds the suggestion, since Philo uses the same source twice in treating the same scriptural verse, that the source he had was a Jewish allegorization of that text by one of Philo's predecessors in the task of uniting philosophy with the Torah (pp. 24 f.).<sup>12</sup> I will discuss this point later.<sup>13</sup>

In the introduction and notes to his translation Cohn has not dealt with the problem in any critical way, and while his remarks occasionally throw light upon a passage they can be said to do little more than that.

The most important attempt at analyzing the passage for its

<sup>10</sup> *Jüdisch-christlicher Schulbetrieb in Alexandria und Rom* (1915), pp. 23 ff.

<sup>11</sup> *Zwei religionsgeschichtliche Fragen*, pp. 78 ff.

<sup>12</sup> Heinemann (*Monatsschrift Gesch. u. Wiss. Judent.*, 1923, p. 285) has rejected this last suggestion.

<sup>13</sup> See below, p. 150.

sources since Heinze was made by Bréhier,<sup>14</sup> though done by him largely in a footnote. The passage is built, he says, upon “une source syncrétiste, dont la note dominante est l'héraclitéisme.” This statement is expanded in a long footnote, in the first paragraph of which he indicates the Heracleitean elements, in the second the other syncretistic additions. The note is not done in M. Bréhier's best vein. He points out that equality is similarly treated in connection with δίκη in *De Creat. Princ.*, chapter xiv, II, 373, and that δίκη was an important conception with Heracleitus (though the Pythagorean explanation of δίκη as a square number because produced by equals is proverbial, and is obviously the source of Philo at this passage). He says that another passage of similar interest is *Spec. Legg.*, IV, 230–238, though this is the same passage as the foregoing, referred to according to the divisions of Cohn's text instead of the older divisions. The idea of harmony is also to be found, he says, in *De Plant.*, 10, and in *Quaest. Gen.*, II, 149 (Harris, p. 59). The last reference does not check in either the text of *Quaest. Gen.* or Harris, but may refer to *Quaest. Gen.*, II, 64 (Harris, pp. 26 f.) where the balance of opposites is treated in quite a Heracleitean manner, though with no reference to harmony.

The second paragraph of the note discusses details which Bréhier regards as syncretistic additions to the Heracleitean original.<sup>15</sup> I shall mention them *seriatim* because it seems to me that his remarks are quite misleading. First come a number of points which Bréhier calls Stoic.

<sup>14</sup> *Les idées philosophiques et religieuses de Philon d'Alexandrie* (2d ed., 1925), pp. 86 ff., esp. p. 87, n. 2.

<sup>15</sup> The paragraph reads: “Le syncrétisme se marque d'abord par la quantité d'exemples stoïciens qui ne peuvent venir d'Héraclite: les quatre éléments; les divisions ξέις φύσις, rationnel-irrationnel (139); la notion de la matière sans forme (οὐσία, 133), la division des zones terrestres (*cf.* Arnim *fr. vet. st.*, II, 195, 6), la division du temps (ib., 301), la théorie de la santé. Enfin la notion même de τομή est identifiée à celle de la division d'après laquelle dans le stoïcisme les éléments confondus d'abord dans la matière se divisent (§135). Il y a aussi des sources platoniciennes (*sic*): l'égalité par analogie des éléments (§153; *Timée*, 32b; 81c), l'homme microcosme (*Timée*, 43d). Ailleurs qu. in *Gen.*, I, 64 (Wendland, 39), la τομή est identifiée avec la τάξις platonicienne. Elle a les caractères du concept stoïcien du destin: ἀκολουθία, εἶπον (*sic*) (*de an. sacr. idon.*, 4, II, 240). Il faut ajouter qu'un fragment sur la division des êtres, que l'on trouve chez Plutarque (*de solert anim.*, 3 fin), est rapporté formellement aux Stoïciens.”

The first of these are the four elements. That the Stoics used the four elements is well known, but of course they did not originate them or use them in any way to mark them as distinctively Stoic teaching. There is nothing more recognizably Stoic about Philo's four elements here than in the following Neo-Pythagorean statement by Timaeus Locrus: Ἀρχαι μὲν ὧν τῶν γεννωμένων ὡς μὲν ὑποκείμενον ἀ οὐλα, ὡς δὲ λόγος μορφᾶς τὸ εἰδος· ἀπογεννάματα δὲ τουτέων ἔστι τὰ σώματα, γά τε καὶ ὕδωρ ἀήρ τε καὶ πῦρ.<sup>16</sup>

On the other hand Bréhier is quite correct in calling Stoic the contrast in §137 (Bréhier mistakenly refers it to §139) between ξεῖς and φύσις. Philo says that the divisions of the ἄψυχα are:

On the one hand those things which remain in the same place, whose bond is ξεῖς, and those things which move, moving not by a change of location but by growing, which things the most sacred φύσις has made alive.<sup>17</sup>

For the Stoics refused to recognize plants as having a ψυχή, and spoke of φύσις as taking its place.<sup>18</sup> They also regarded ξεῖς as the cohesive force in inorganic objects.<sup>19</sup> Ξεῖς is defined by Achilles Tatius as follows: σώματα ἡγωμένα λέγεσθαι δσα ὑπὸ μᾶς ξεῖως κρατεῖται, οὐν λίθος, ξύλον· ἔστι δὲ ξεῖς πνεῦμα σώματος συνεκτικόν.<sup>20</sup> Philo was quite at home in all these distinctions, as appears from an extended passage in the *Quod Deus sit Immut.*, pp. 35 ff., where he discusses the details of each of the following classifications: τῶν γὰρ σώματων τὰ μὲν ἐνεδῆσατο ξεῖς, τὰ δὲ φύσει, τὰ δὲ ψυχῇ, τὰ δὲ λογικῇ ψυχῇ. λίθων μὲν οὖν καὶ ξύλων ἀ δὴ τῆς συμφυτὰς ἀπέσπασται, δέσμον κραταιότατον ξεῖν εἰργάζετο· ἡ δὲ ἔστι πνεῦμα ἀναστρέφον ἐφ' ἑαυτό, κτλ. Philo need not have got this particular detail in the passage of *Quis Heres* which we are discussing immediately from the source, then, though I think it quite likely that he did so.

<sup>16</sup> *De Anima Mundi et Natura*, 5; see also 6 (Mullach, *Fragm. Phil. Gr.* II, 41). While many writers say the Pythagoreans taught five elements, almost as many say they taught four. There is similar, or parallel, confusion about Plato. See Eva Sachs, *Die fünf platonischen Körper: zur Geschichte der Mathematik und der Elementenlehre Platons und der Pythagoreer* (Berlin, 1917), pp. 8 ff. Need one mention Empedocles?

<sup>17</sup> Cf. *Deus Immut.*, 36.

<sup>18</sup> Arnim, *Stoicorum Veterum Fragmenta* (hereafter abbreviated as *SVF*), II, 708–712.

<sup>19</sup> Alex. Aphrod., *SVF*, II, p. 155, lines 24–30.

<sup>20</sup> *Isagoga*, 14 (*SVF*, II, 368); cf. Alex. Aphrod., *SVF*, II, 157, line 7.

The next detail which M. Bréhier points out as distinctively Stoic is the contrast between rational and irrational, for I cannot believe that when he wrote "les divisions ξεις φύσις, rationnel-irrationnel (139)" he could have meant to parallel the two, as though the Stoic distinction of ξεις and φύσις was one between rational and irrational. But it is just as hard to think what he could have meant in making the contrast of rational and irrational as anything markedly Stoic.<sup>21</sup>

When he speaks of "la notion de la matière sans forme (οὐσία, 133)" as implying a specifically Stoic teaching he is just as hard to understand. He could not have meant to say that the Stoics originated or appropriated as specially their own the notion of matter without form. What he must have meant was that to call this formless matter ἡ τοῦ πάντος οὐσία was a Stoic peculiarity. While Zeller says the same thing,<sup>22</sup> and it is quite true that the Stoics did speak in this way,<sup>23</sup> I find it hard to agree that the appearance of the term οὐσία for formless matter necessitates the inference of Stoic influence. For there is nothing to show that the Stoics originated such a use of οὐσία, and some evidence the other way. Aristotle himself says λέγομεν δὴ γένος ἐν τι τῶν ὅντων τὴν οὐσίαν, ταύτης δὲ τὸ μὲν ὡς ὕλην,<sup>24</sup> and οὐσία λέγεται τὰ τε ἀπλᾶ σώματα, οἷον γῆ καὶ πῦρ καὶ υδωρ καὶ θεα τοιαῦτα, καὶ δλῶς σώματα καὶ τὰ ἐκ τούτων συνεστῶτα.<sup>25</sup> This is of course by no means the usual meaning of οὐσία in Aristotle, but here the reference to the material, the unformed, substrate is to me unmistakable. Similarly in describing the atoms of Democritus he calls them οὐσίαι,<sup>26</sup> which, whether the term here belongs to Aristotle or Democritus, is certainly an application of the word to primitive matter. That this usage of οὐσία was familiar among Pythagoreans is made plain

<sup>21</sup> See the contrast between τὰ λογιστικά and τὰ ἄλλα ζῷα in Aristotle, *De Anima*, 434 a, 6. Animals are in contrast to man by being τὰ ἀλογα ζῷα in Plato, *Protag.*, 321 b; Xenophon, *Hiero*, vii, 3.

<sup>22</sup> *Philos. der Griechen*, I, i, 468 n.; Eng. tr., I, 390, n. 1.

<sup>23</sup> So Zeno, in Arius Didymus, fr. 20 (Diels). *SVF*, I, 87: Οὐσίαν δὲ είναι τὴν τῶν ὅντων πάντων πρώτην ὕλην, ταύτην δὲ πᾶσαν ἀΐδιον καὶ οὕτε πλειώ γινομένην οὔτε ἐλάττω. Cf. Chrysippus, *ap. eund.*, fr. 21, *SVF*, II, 413.

<sup>24</sup> *De Anima*, 412 a, 6 f.

<sup>25</sup> *Metaph.*, 1017 b, 10 ff.; cf. 1043 a, 26 ff.: φανερὸν δὴ ἐκ τῶν εἰρημένων τίς ἡ αἰσθητὴ οὐσία ἔστι καὶ πῶς· ἡ μὲν γάρ ὡς ὕλη, ἡ δ' ὡς μορφὴ δτι ἐνέργεια· ἡ δὲ τρίτη ἡ ἐκ τούτων. See also οὐσία as the material ὑποκείμενον in 1028 b, 33 ff.

<sup>26</sup> Aristotle, fr. 202.

from the following fragment ascribed to Archytas: τῆς γὰρ οὐσίας εἰσὶν διαφοραὶ τρεῖς· ἡ μὲν γάρ ἔστιν ὑλη, ἡ δὲ μορφή, ἡ δὲ συναμφότερον ἐκ τούτων.<sup>27</sup> Still more unmistakably Ps.-Archytas says in the fragment from his Περὶ ἀρχῶν: ὥστε τρεῖς ἀρχὰς εἰμεν ἦδη, τὸν τε θεὸν καὶ τὰν ἔστω (i.e. οὐσίαν) τῶν πραγμάτων καὶ τὰν μορφώ, καὶ τὸν μὲν θεὸν <τὸν> τεχνίταν καὶ τὸν κινέοντα, τὸν δ' ἔστω τὰν ὑλαν καὶ τὸ κινούμενον, τὰν δὲ μορφώ τὰν τέχναν καὶ ποθ' ἀν κινέεται ὑπὸ τῷ κινέοντος ἐστό.<sup>28</sup> Ocellus Lucanus seems to use the terms in the same sense.<sup>29</sup> Arius Didymus, himself a Stoic, ascribes the term to Platonists, and, by inference, to Aristotle.<sup>30</sup> But Aristotle in turn says that the Pythagoreans spoke of the ἀπειρον as οὐσία,<sup>31</sup> and that they "at the same time called it οὐσία and cut it into portions."<sup>32</sup> As contrasted with this evidence for a pre-Stoic use of οὐσία for primitive, unformed matter, those who assert that such usage began with the Stoics have only the fact that the definition of Zeno given above is more specific than any of the other passages quoted, and that the Stoics often used the term in that way after Zeno. But even lacking the evidence quoted for pre-Stoic usage, if the statement of Zeno was only the earliest using of the term in that way which we could definitely date, it would still be dangerous to conclude that any other anonymous document in which the term was found must be later than Zeno and necessarily derived from Stoic sources. In the chronological discussion of documents in Greek philosophy there has been too much dating of terms by the authors and documents where we first happen to find them, and then dating other documents by the terms.

Again when M. Bréhier calls Philo's division of the earth into five zones a Stoicism he seems to me equally unjustified, for while it is true that Diogenes Laertius does describe it as a Stoic doc-

<sup>27</sup> J. Nolle, *Ps.-Archytæ Fragmenta*, fr. 35 (p. 28, l. 29; see l. 12: ἡ οὐσία φυσική, οὐκ ἄνευ σώματος). See also frs. 8, 10, 14a, 14b, and that quoted below, p. 143.

<sup>28</sup> Nolle, *ibid.*, p. 1, ll. 27 ff. See below, pp. 140 f.

<sup>29</sup> I, 15 (§17 in Harder's edition): ἔτι δὲ καὶ τὸ ἀναρχον καὶ τὸ ἀτελεύτητον καὶ τοῦ σχήματος καὶ τῆς κινήσεως καὶ τοῦ χρόνου καὶ τῆς οὐσίας τούτο πιστοῦται διότι ἀγένητος δὲ κόσμος καὶ ἀφθαρτος. . . . Η γε μὴν οὐσία τῶν πραγμάτων ἀνέκβατος καὶ ἀμετάβλητος διὰ τὸ μήτε ἀπὸ τοῦ χείρονος ἐπὶ τὸ βέλτιον μήτε ἀπὸ τοῦ βελτίονος ἐπὶ τὸ χείρον πεφυκέναι μεταβάλλειν. Harder, p. 87, notes that this is Hellenistic, and is parallel to the φύσις τῶν πραγμάτων. Of this I am not certain.

<sup>30</sup> Diels, *Doxographi*, p. 447, l. 27, and p. 448, ll. 24 ff.

<sup>31</sup> Met., 987 a, 18; Phys., 203 a, 5.

<sup>32</sup> ἂμα γὰρ οὐσίαν ποιοῦσι τὸ ἀπειρον καὶ μερίζουσιν Phys., 204 a, 33.

trine,<sup>88</sup> yet in a fragment of Poseidonius,<sup>84</sup> the doctrine of the zones is specifically ascribed to Parmenides, and a summary is given of a lost discussion of the subject by Aristotle. Aëtius tells us that Parmenides was the first to confine the habitable world to the two "tropical" (our "temperate") zones,<sup>85</sup> but for a discussion of the five zones he refers only to Pythagoras.<sup>86</sup> There seems to have been a considerable difference between the various schools as to the location of the boundaries, if we may judge from Strabo's abridgment of Poseidonius, but the details are now lost. So in view of the other philosophers it seems to me impossible to conclude, from the mere fact that Diogenes mentions the zones as part of Stoic teaching, that the doctrine was so characteristically Stoic that its presence in Philo identifies Stoic influence. Aëtius, it may be emphasized, thought of it as especially Pythagorean.

Again Bréhier would refer to a Stoic origin Philo's remarks about the proportional intervals ( $\deltaιαστήματα$ ) of time as divisions into longer and shorter days and nights.<sup>87</sup> But again he seems to me to be in error. It is true that the Stoics defined time as the  $\deltaιάστημα τῆς τοῦ κόσμου κινήσεως$ , but except that both statements connect time with the word  $\deltaιάστημα$  they have nothing whatever in common.<sup>88</sup> According to Chrysippus time is infinitely divisible, not simply divided into such proportional groups as Philo suggests; it is rather Plato who recognizes days, nights, months, and

<sup>88</sup> VII, 156 (*SVF*, II, 649), the passage to which M. Bréhier refers. Diogenes does not describe it as uniquely Stoic teaching.

<sup>84</sup> Strabo, II, ii, 2; Bäke, *Poseidonii Rhodii Reliquiae Doctrinae* (1830), pp. 91 ff. Bäke notes that this ascription to Parmenides is confirmed by Achilles Tatius, *Iseagoga*, 31, where Polybius and Poseidonius are noted as teaching six zones, Eratosthenes, καὶ ἄλλοι πολλοί, five.

<sup>85</sup> *Placit.*, iii, 11, 4; Diels, *Doxogr.*, p. 377.

<sup>86</sup> *Placit.*, iii, 14; Diels, p. 378.

<sup>87</sup> §148. Bréhier's reference "*ib.*, 301," which would naturally mean from his foregoing reference *SVF*, II, 301, to justify his calling this Stoicism, does not check.

<sup>88</sup> *SVF*, I, 93; II, 509; cf. Apollodorus, fr. 8, *ibid.*, III, p. 260. Philo knew and used this definition (cf. *Opif.*, 28), but the definition itself may be Pythagorean. Simplicius definitely traces it back to Pythagoreans, especially Archytas (*SVF*, II, 516), and it is clear that the definitions he gives are largely variants from some original. See also Simplicius' fuller discussion, *In Categor.* (ed. Kalbfleisch), p. 350, ll. 11 ff. Plato's (*Tim.*, 38 a) and Aristotle's (*Phys.*, 219 b 2) versions suggest a Pythagorean original, though other Pythagorean definitions are extant: Aëtius, *Plac.*, I, xxi, 1 (Diels, *Doxogr.*, p. 318).

years as μέρην χρόνου.<sup>39</sup> When Chrysippus discusses the seasons and equinoxes it is merely to define them,<sup>40</sup> without hint of proportional relationship between them as here in Philo. That is, the point of Philo's remarks finds no echo in our remains of Stoicism, but as an exposition of equality and proportion it is Pythagorean in color, though no Pythagorean counterpart is extant.

It is also strange that M. Bréhier should mark as a Stoicism Philo's theory of health, namely that health is a matter of keeping the proper proportion between the four qualities of dryness and moisture, cold and heat, which have all been mixed in us according to proportional equality (§153).<sup>41</sup> This was the medical axiom of the day, which, probably beginning with Alcmaeon,<sup>42</sup> affected Parmenides, Empedocles,<sup>43</sup> Plato, and Aristotle, and was taken over by many later doctors, though the theory remained particularly interesting to Pythagoreans.<sup>44</sup>

M. Bréhier closes his list of what he considers Stoicisms by saying that the notion of τομή of Philo is to be identified with that division described by Stoics by which the elements, at first confused in primitive matter, were distinguished from each other. He gives no references, and again seems to me to be misleading. It is true that matter was infinitely divisible according to the Stoics,<sup>45</sup> but not true that this τομή separated out the four elements from primitive matter. This process, Chrysippus specifically tells us, was one κατὰ μεταβολήν, not of τομή.<sup>46</sup> For the Stoic primitive element was fire, or a form of fire, and the four elements were regarded as successive stages of development or disintegration of fire. These were not eternally separated, as in Philo, but were always shifting back and forth into and out of each other. So when Galen wanted to contrast Empedocles with

<sup>39</sup> *Tim.*, 37 e, where Plato is presumably following Pythagorean teaching, though Archytas insists that time is οὐ διωρισμένος. Simplic., *In Categor.*, p. 353, l. 2.

<sup>40</sup> *SVF*, II, 693.

<sup>41</sup> Bréhier gives no reference to associate this with Stoicism.

<sup>42</sup> Aëtius, *Placit.*, v, 30 (Diels, *Doxogr.*, 442; *Fragm. Vorsok.*, 14 B 4); Zeller, *Philosophie der Griechen*, I, i (6th ed.), p. 601, n. 1; Taylor, *Commentary on Plato's Timaeus*, pp. 448 ff.

<sup>43</sup> Burnet, *Early Greek Philosophy* (3d ed.), pp. 195 f., 200 f.; cf. Plato, *Tim.*, 82 a.

<sup>44</sup> Burnet, *op. cit.*, pp. 278 ff.

<sup>45</sup> ἡ τομὴ εἰς ἀπειρόν ἐστιν, Diog. La., VII, 150; cf. *SVF*, II, 482-491.

<sup>46</sup> *SVF*, II, 413.

the Stoics in their teaching of the elements he says: καὶ γὰρ οὗτος ἐκ τῶν τεσσάρων στοιχείων βούλεται συνίστασθαι τὰ σώματα, μὴ μεταβαλλόντων εἰς ἄλληλα.<sup>47</sup> It is precisely such an un-Stoic permanence of the elements which Philo, or better his source, is describing as produced by τομή. If we may infer Stoic teaching from a passage in Plotinus,<sup>48</sup> the Stoics spoke of τομή in connection with the elements as the process by which the original elements were again resolved out of the κρᾶσις, as sweat seemed to them to be an excision of some of the damp element out of the bodily mixture. But division was not the Stoic method of creation, but transmutation and mixture, by which the κρᾶσις was built up. Incidentally, if Aëtius<sup>49</sup> may be believed, the Pythagoreans as well as the Stoics taught the infinite divisibility of matter, probably because that harmonized so well with their theory of numbers as the formal element in creation. To this we shall return later.

In the same note M. Bréhier points out two traces of Platonic influence in the source, Philo's statement of the proportional relation of the four elements to each other,<sup>50</sup> and his speaking of man as a microcosm.<sup>51</sup> The first is certainly to be found in Plato, but was probably taken by him from the Pythagoreans. For that Plato was expanding Pythagorean ideas to a large extent in the *Timaeus* has long been axiomatic, and Aristotle seems to refer to a Pythagorean original for the proportional relation of the elements when he says: "They (the Pythagoreans) supposed the elements of numbers to be the elements of all things, and the whole heaven (or universe) to be a musical scale and a number."<sup>52</sup> For the essence of the Pythagorean musical scale was the proportional relationship of the tones.<sup>53</sup>

Still less is the relation of man to the universe as microcosm to macrocosm, while implied by Plato, to be called distinctively Platonic. Galen associates it with the "men of old" in general,<sup>54</sup> and David the Armenian ascribed it specifically to Democritus,<sup>55</sup> probably on the basis of a lost document of Democritus, the

<sup>47</sup> *De Const. Artis Medic.*, 7 (*SVF*, II, No. 420, p. 138, ll. 37 f.).

<sup>48</sup> *Enn.*, II, vii, 1 (*SVF*, II, 478).

<sup>49</sup> *Plac.*, I, xvi, 1; Diels, *Doxogr.*, p. 314.

<sup>50</sup> §153; cf. Plato's *Timaeus* 32 b.

<sup>51</sup> §155.

<sup>52</sup> *Metaph.*, 986 a, 1 ff. Ross's translation.

<sup>53</sup> See below, p. 145.

<sup>54</sup> *De Usu Partt.*, III, 10; Diels, *Fragm. Vorsok.*, 55 B 34.

<sup>55</sup> Diels, *loc. cit.*

Μικρὸς διάκοσμος.<sup>56</sup> Aristotle speaks of the microcosm far more specifically than Plato,<sup>57</sup> and apparently without any feeling that the idea is Platonic. Indeed, Meyer has shown that the conception is plainly implicit in the philosophies of Anaximenes, the Pythagoreans, and Heracleitus.<sup>58</sup>

Bréhier then refers to the fact that Philo in another passage<sup>59</sup> calls τοὺν the same as τάξις, pointing it out as another connection of Plato with this subject, though not with the same passage. But what he can mean by "la τάξις platonicienne" is again not at all clear. To be sure, τάξις is an important word with Plato for the cosmic order,<sup>60</sup> but he very probably had the conception from the Pythagoreans, for we have several testimonies to the fact that they first taught the notion of cosmic τάξις along with the cosmic harmony.<sup>61</sup> It is probably from them that Heracleitus and Aristotle got the conception, which they used freely, as did the Stoics.<sup>62</sup> M. Bréhier notes also that Philo ascribes to this τάξις the Stoic terms by which fate was frequently described, ἀκολουθία and εἰρημός, and parallels with the reference *de an. sacr. idom.*, 4, II, 240 (in the Cohn-Wendland edition, *Spec. Leg.*, i, 195). It will, however, clarify what Philo says on the point to quote his statement, a comment on the verse, "For the wickedness of the Amorites is not yet fulfilled" (Gen. 15.16). Philo says:

Such words give a pretext to weaker people (i.e., to other Hellenistic Jews reconciling the Torah with Greek philosophy) to suppose that Moses adduced εἰμαρένη and ἀνάγκη as causes in all phenomena. But we ought not overlook the fact that as a philosophic and inspired<sup>63</sup> man he knew the succession (ἀκολουθία) and series (εἰρημός) and interaction (ἐπιπλοκή) of causes, but did not ascribe to these (i.e. to fate and necessity) the causation of phenomena. For he conceived of another more primal cause mounted upon the universe like a charioteer or pilot; for

<sup>56</sup> Diog. La., ix, 46; Diels, 55 A 33.

<sup>57</sup> *Physic.*, 252 b, 26.

<sup>58</sup> Adolf Meyer, *Wesen und Geschichte der Theorie vom Mikro- und Makrokosmos* (Bern, 1900), pp. 4 ff.

<sup>59</sup> *Quaest. Gen.*, I, 64.

<sup>60</sup> *Timaeus*, 30 a.

<sup>61</sup> Eudemus, fr., 95, Diels, *Frag. Vorsok.*, I, 19, l. 12; Alexander (*Metaphys.*, 75, 15, Diels, I, 355, ll. 29 ff.) records the same statement from Aristotle; Achilles Tatius, *Isagoga*, 16.

<sup>62</sup> Heracleitus, in Theophrastus, Diels, *Doxogr.*, 476, l. 1; Aristotle, *De Coelo* 296 a, 34; *Met.*, 1075 a, 13 ff.; Stoics, Chrysippus in Aëtius, *Plac.*, I, xxviii, 3 (Diels, *op. cit.*, p. 323). It is also interesting to note the use of the term in Anaximander, fr. 9.

<sup>63</sup> θεοφράδμων, a word peculiar to Philo so far as I can discover, parallel to the Orphic θεοφραδής.

it steers the universal ship of the cosmos in which all things sail, and drives the winged chariot, the whole heaven, using an absolute and autocratic sovereignty. *Quis Heres*, 300 f.

That is, the terms ἀκλοθεία and εἰρήνη are retained from Stoicism, as M. Bréhier says, but only after Philo, or his source, has carefully removed from them all their Stoic implications. For in Stoicism they were synonymous with εἰμαρτυρένη.<sup>64a</sup>

M. Bréhier closes the long note we have been discussing by saying that a fragment on the division of beings, to be found in Plutarch ("de solert. anim., 3 fin"), is ascribed formally to the Stoics. There is nothing to the point in this passage, and M. Bréhier must have had §2 (p. 960 b, c) in mind. Even here Plutarch only states that the Stoics set up pairs of opposites, as that mortal is contrasted (*ἀντικείται*) with immortality, and the like. He gives no hint of what might be called a *division des êtres* in a sense remotely comparable to the Philonic passage under discussion. The Stoics used the opposites freely for logical, not physical, classification, and explained them as positive qualities whose opposites were characterized by a στέρωσις of those qualities. Ar nim (*SVF*, II, 172–179) has collected a series of passages from Simplicius on the subject. The Stoics' treatment of the ἐναντία was probably opposed explicitly to that of the Heracleiteans, the Pythagoreans, and Philo, for a book is ascribed to Chrysippus by Diogenes (VII, 200) entitled πιθανὰ πρὸς τὰ διαιρέσεις καὶ τὰ γένη καὶ τὰ εῖδη καὶ περὶ τῶν ἐναντίων. The title seems to me to indicate that Chrysippus was developing a theory of ἐναντία in opposition to one which involved διαιρέσεις.<sup>64b</sup> It may even be that another work mentioned in the same section of Diogenes, περὶ τῶν ἐναντίων πρὸς Διονύσιον, was a controversial document on the subject against the Dionysius who is given as a pupil of Heracleitus in Diogenes IX, 15.

It has seemed to me to be worth while to spend so much space in discussing this note for several reasons, first because anything that M. Bréhier writes is to be given serious consideration before

<sup>64a</sup> *SVF*, I, 98; II, 917, 918, 920, 962, 1002.

<sup>64b</sup> Ar nim (*SVF*, II, p. 9, l. 10), followed by Hicks, has arbitrarily altered the title to read πιθανὰ πρὸς τὰ διαιρέσεις καὶ τὰ γένη καὶ τὰ εῖδη καὶ <τὰ> περὶ τῶν ἐναντίων. That is, he has quite changed the meaning of the title by destroying the contrast between the πρὸς and the περὶ. Since we know nothing of the contents of the work beyond what we can judge from the title, Ar nim's alteration seems entirely unwarranted.

it is rejected, and second because the very points he touched upon as Stoic or Platonic have proved in almost every case to be familiar doctrines in the school of the Pythagoreans, if not original with them. Terminology distinctively Stoic has revealed itself only in the contrast between φύσις and ξένος. But the Pythagorean elements in the discussion have by no means been exhausted, and I shall point out others before attempting to draw any conclusions.

It will be recalled that Heinze said that he saw important survivals of the Heracleitean philosophy in this Philonic section, but that the "Grundanschauungen" of the two philosophers were different. The "Grundanschauung" of Philo must first be got clearly in mind again. He is describing the created world as consisting of an almost infinite series of opposites held together in harmony by the very creative impulse or agent which had originally separated them out from primitive and unformed matter by a series of bisections. Now Philo was quite right in saying that Heracleitus taught that reality was a unity underlying opposites. But the conception of Philo is most certainly not that of Heraclitus, though it has this detail in common with the great Ephesian. For Heracleitus is primarily monistic, and while he says πόλεμος πάντων μὲν πατήρ ἔστι πάντων δὲ βασιλεύς (Fr. 44), the πόλεμος of this fragment is not a principle or force independent of the universal flowing substance, but only an inherent characteristic of that substance; reality is a ἀρμονία of opposite tensions, a single nature which develops itself in the twofold directions.<sup>65</sup> Philo is just as completely dualistic as Heracleitus is monistic. Over against the unformed matter, out of which the opposites were to be produced, he posits a divine creative activity, a force (*δύναμις*) from God, which he calls the "Logos Cutter." This comes into matter, one might say, from the outside, makes the divisions, and remains immanent in creation as the bond between the opposites it has produced, in some senses analogous to the ἀρμονία of Heraclitus, but differing always in the essential particular that it was never an inherent aspect of the material opposites or of their common original nature. Burnet has pointed out that while Heraclitus did not always mean the same thing as the Pythagoreans by the word ἀρμονία, he yet must have had it from them, since it does not naturally suggest itself as a figure from his own line of

<sup>65</sup> Burnet, *Early Greek Philosophy*, p. 143; Heracl., frs. 1, 45, 62 (ed. Bywater).

thought.<sup>66</sup> So while Heracleitus talked of a balance of the opposites, we have no hint that he was interested in the mathematical principle of *ἴσος* as the underlying *ἀρμονία*. All of the mathematical imagery of Philo here, then, comes from non-Heracleitean sources, and at once suggests Pythagoreanism again.<sup>67</sup>

To determine the true character of Philo's source we must accordingly examine the fundamental points of view described in this section.

It is first to be noticed that Philo's dualism, while it suggests Platonism, suggests Pythagoreanism much more directly. For it will be recalled that for Pythagoreanism the fundamental dualism of God and matter was expressed in terms of the two fundamental elements, the monad, undivided, and the infinitely divisible dyad,<sup>68</sup> sometimes discussed under the terms of the odd and even. As Simplicius puts it, the Pythagoreans thought of every material entity as theoretically, though not actually, divisible to infinity in so far as it is material and partakes of the nature of the dyad or the even; but that same entity is indivisible in so far as it is an individual and shares in the nature of the form-producing and limiting one, or odd.<sup>69</sup> Both the monad and the dyad as thus developed in Pythagoreanism have left a marked impression upon the section of Philo under discussion. He describes God as the monad in §§187–190:

The monad can suffer neither addition nor subtraction, for it is the image of God, who alone is complete.

Thus as unity God is the cohesive force of the universe (here called the Logos as being God in relation with the world), the

<sup>66</sup> *Op. cit.*, 144.

<sup>67</sup> On harmony and number as fundamental aspects of creation among the older Pythagoreans see Philolaus, frs. 1, 2, 4, 5, 6, (Diels), and especially fragment 10: ἀρμονία δὲ πάντως ἐξ ἐναντίων γίνεται· ἔστι γὰρ ἀρμονία πολυμηγέων ἔνωσις καὶ δίχα φρονεόντων συμφρόνησις.

<sup>68</sup> See the fragment published by Delatte, *Études sur la littérature Pythagoricienne* (1915), p. 172, ll. 9 ff.: Δυάς εἰρηται παρὰ τὸ διέναι καὶ διαπορεύεσθαι· πρώτη γὰρ ἔχωρισεν αὐτὴν ἐκ τῆς μονάδος· καὶ γὰρ τῆς μονάδος ἔνωσιν δηλουσῆς, ἡ δυάς χωρισμὸν δηλοῖ.

<sup>69</sup> In *Arist. Phys.*, 203 a, 10, ed. Diels, p. 455, ll. 15 ff. See also the quotations collected by Diels, *Fragm. Vorsok.*, 45 B 5, 9, 14, 15, 28; and Iamblichus, *Theol. Arith.*, (De Falco's edition), pp. 2, line 1; 6, 7 ff.; 7, 3; 9, 12 ff.; 10, 6. Simplicius is strikingly vindicated in the fragment in Aëtius, *Placit.*, I, iii, 8; Diels, *Doxographi*, 282, ll. 17 ff.

cosmic glue binding it into a unity. He quotes the Iliad, IX, 97: *ἐν τοι μὲν λήξω, στέ δ' ἀρξουσι*, and goes on to say:

For when a number made infinite by infinite additions is resolved it constitutes a monad in its final totality, and begins again from the monad even after it has itself been built up by adding together an uncounted multiplicity. For which reason the monad is not a number, but is the element and beginning of number, as they say who have investigated the subject with accuracy.<sup>70</sup>

Philo is then consciously following the Pythagoreans, to whom he plainly refers, in making reality consist of an infinite number of monads bound together by the principle of the monad itself which makes every number or sum of numbers in itself a unit, or, in other words, gives it identity.

But it is interesting that Philo or his source proposed to alter some of the stricter Pythagorean teaching to make room for a more congenial theism. In §§227-229 he says:

The elements and the perishable phenomena (*ἀποτελέσματα*) whose symbols are the table and the altar of incense are measurable as being bounded by the heaven (*οὐρανός*), for anything contained is always measured by what contains it. But the heaven whose symbol is the candlestick is of infinite magnitude (*ἀπειροεγέθης*). For it is contained by no body, whether of the same size with it or infinite (*ἀπειρον*), nor, according to Moses, is it surrounded by void (*κενόν*) as described in the idle myth of the universal conflagration (*διὰ τὴν ἐν τῇ ἑκτορώσαι μυθευομένην τερατολογίαν*). But its limit (*ὅρος*) is God,<sup>71</sup> its charioteer and pilot. Accordingly, since Being (God) is incomprehensible, so also that which is defined by Him is not to be measured by such measures as come within the range of our intelligence; and perhaps, since it is of circular form and skilfully fashioned into a sphere, it has no participation in length or breadth.

In this statement, when Philo rejects, along with the doctrine of the universal conflagration, the idea that the world is surrounded

<sup>70</sup> μονάς δὲ οὗτε προσθήκην οὔτε ἀφαιρεσιν δέχεσθαι πέφυκεν, εἰκὼν οὖσα τοῦ μόνου πλήρους θεοῦ. . . . λίγει τε γάρ ἀναλυθμένος δι κατὰ σύνθεσιν ἀπειράκις ἀπειρος ἀριθμὸς εἰς μονάδα, ἀρχεται τε αὐτὸν ἀπὸ μονάδος εἰς ἀπεργύραφον συντιθέμενος πλῆθος. διόπερ οὐδὲ ἀριθμόν, ἀλλὰ στοιχεῖον καὶ ἀρχὴν ἀριθμοῦ ταύτην ἔφασαν, οἰς ζητεῖν ἐπιμελές. Cf. Aristoxenus, in Diels, *op. cit.*, 45 B 2: μονάς μὲν οὖν ἔστιν ἀρχὴ ἀριθμοῦ, ἀριθμὸς δὲ τὸ ἐκ τῶν μονάδων πλῆθος συγκείμενον.

<sup>71</sup> In *Opif. Mund.*, 37 Philo shows that he thinks that *οὐρανός* is etymologically derived from *ὅρος*. See below, p. 157.

by void, there can be no mistaking the reference to Stoicism.<sup>72</sup> With their notion he will have nothing to do. But when he rejects the doctrine of the ἀπειρον σῶμα as surrounding the universe he seems to be rejecting, or modifying, a Pythagorean teaching. For it will be recalled that Aristotle says of the Pythagoreans that while all credible philosophers have a theory of the ἀπειρον, and make it the ἀρχὴ τῶν ὅντων, some, like the Pythagoreans and Plato, make it abstract (καθ' αὐτό), not contingent upon anything else, but representing the ἀπειρον itself as οὐσία. But some of the Pythagoreans, he goes on to say, reckon the ἀπειρον among sensible objects (for they do not consider number to be separable), “and they say that the ἀπειρον is beyond the heaven (ἔξω τοῦ οὐρανοῦ).”<sup>73</sup> Simplicius, in commenting upon this, recalls that Timaeus denied any σῶμα outside the οὐρανός,<sup>74</sup> and indeed Plato's remarks are a direct refutation of the Pythagorean theory.<sup>75</sup> Aristotle says further:

The Pythagoreans say that there is a void, and that out of the ἀπειρον there comes into the οὐρανός itself, as though it were breathing, πνεῦμα and the void, which latter divides (διορίζει) the natures (φύσεις), for void is the separating and dividing principle in things that are continuous: and this appears first in the numbers, for the void separates their nature.<sup>76</sup>

To this statement Simplicius notes,

The Pythagoreans postulate that the ἀπειρον outside the οὐρανός is some sort of void (τὸ κενόν), and they call this same thing also πνεῦμα.”

So we have a tradition of Pythagoreans teaching that outside the

<sup>72</sup> Aëtius, *Plac.*, II, ix, 2 (Diels, *Doxogr.*, 338): οἱ Στοικοὶ εἶναι (ἐκτὸς τοῦ κόσμου) κενόν, εἰς δὲ κατὰ τὴν ἐκπύρωσιν ἀναλύεται δὲ κόσμος ἀπειρος ὄν. Poseidonius had also rejected this, *ibid.*, §3. Cf. Ar nim, *SVF*, I, 94–96; II, 524, 535, 538, 539, 543, 552, etc. Philo specifically refers this doctrine to the Stoics in *De Aeter. Mundi*, 102. He rejects the ἐκπύρωσις in this section again, *Quis Heres*, 200.

<sup>73</sup> *Phys.*, 203 a, 1 ff.; Diels, *Fragm. Vorsok.*, 45 B 28.

<sup>74</sup> Ed. Diels, p. 453, ll. 14 ff.

<sup>75</sup> *Timaeus*, 33 c.

<sup>76</sup> *Phys.*, 213 b, 22; reading with Diels, *Fragm. Vorsok.*, 45 B 130 πνεῦμα τε instead of the familiar πνεύματος. Cf. Aëtius, *Plac.*, II, ix, 1 (Diels, *Doxographi*, 338). It will be recalled that Philo reproduces this peculiar statement of “dividing the φύσεις.” See above, p. 117.

<sup>77</sup> Brandis, *Scholia in Aristotelem*, 381 a, 7 ff.; cf. Simplicius, *In Physic.* (ed. Diels), p. 651, ll. 26 ff.

οὐρανὸς was what some of them called an informing κενόν, others the ἄπειρον, and still others πνεῦμα. But from an ἄπειρον πνεῦμα to an ἄπειρον σῶμα is a short step, which we have specific evidence was actually taken by some later Pythagoreans. Eudemus tells a story, probably spurious, of Archytas, that he was asked if it were possible for one standing on the last fixed circle of the οὐρανὸς to stretch out his hand or rod beyond it. Archytas is said to have answered that it would be strange indeed if he were unable; "but if I stretch it out, then body (σῶμα) or space will be outside (and they do not differ as I will show)." He concludes that what is outside the οὐρανὸς is σῶμα ἄπειρον καὶ τόπος.<sup>78</sup> Here seems to me to be unquestionably the ἄπειρον σῶμα to which Philo is referring; but he does not like it. He has preserved for his own use the idea that out of the great beyond comes a principle which creates by a process of separating what otherwise would be "compact together," as Simplicius calls it.<sup>79</sup> But this primal causation could by such a theist as Philo be ascribed only to God or the Logos. So here Philo denies the physical and mechanical aspects of Pythagoreanism and Stoicism alike in the interest of a theistic Pythagoreanism. Accordingly Philo goes on to deny any association with God of those attributes of matter by which our minds usually conceive it, length and breadth. This is only a further rejection of the Pythagorean σῶμα ἄπειρον, since according to their definitions σῶμα εἶναι . . . συνεστώς ἐκ τε μήκους καὶ πλάτους καὶ βάθους.<sup>80</sup> In passing it may be pointed out that this is like, but not at all the same as, the deity of Poseidonius, who taught that οὐρανὸς δέ ἔστιν ἡ ἐσχάτη περιφέρεια ἐν ἣ πᾶν ἰδρυται τὸ θεῖον.<sup>81</sup> For the deity of Poseidonius seems to have been still Stoic in that he identified God with the simplest form of matter which extended its "ruling part" (τὸ ἡγεμονικὸν αὐτοῦ) into all other elements and parts of the universe,<sup>82</sup> and also in that he kept the early Stoic identification of God with the universe.<sup>83</sup> But Philo, or his source,

<sup>78</sup> *Phys. frag.*, 30 (Diels, *Fragm. Vorsok.*, 35 A 24). This seems to me to explain Philo's frequent description of God as the τόπος of the universe, as well as being his own τόπος. *Leg. Al.*, I, 44; *Fug.*, 75, 77, and especially *Somn.*, I, 63: αὐτὸς δὲ θεὸς καλεῖται τόπος τῷ περιέχειν μὲν τὰ ὅλα, περιέχεσθαι δὲ πρὸς μηδενὸς ἀπλῶς. Cf. §64.

<sup>79</sup> In *Physic.* (ed. Diels), p. 651, ll. 28 ff.: χρείαν δὲ παρέχεσθαι (οἱ Πνθ. ἔλεγον τὸ κενόν) πρὸς τὸ μὴ συνεχῆ πάντα εἶναι τὰ σώματα ἀλλήλοις, ὃς δὲ Αλέξανδρος ἀκούει.

<sup>80</sup> *Sext., Math.*, ix, 366 f., *Pyrrh.*, iii, 39.

<sup>81</sup> *Diog. Laert.*, vii, 138.

<sup>82</sup> *Ibid.*, 147.

<sup>83</sup> *Ibid.*, 148.

has rejected any materialism in deity, and so, while God is still associated with the οὐρανός, that is not to be understood in any material sense. What he is trying to do is to immaterialize the Stoic conception, and to put in its place a deity which is obviously the Pythagorean monad as opposed to the material dyad, developed under the influence of the Aristotelian uncaused and unmoved first principle, acting through his Logos in creating and ruling the world.

At the same time Philo's words καὶ τάχα ἐπει κυκλοτερής ὁν καὶ ἄκρως εἰς σφαιραν ἀποτετορνευμένος μῆκους καὶ πλάτους οὐ μετέχει (§229), vividly recall Aristotle's report of Plato's lecture, probably that on the Good, where he says: δύοις δὲ καὶ ἐν τοῖς περι φιλοσοφίας λεγομένοις διωρίσθη, αὐτὸ μὲν τὸ ζῶον ἐξ αὐτῆς τῆς τοῦ ἑνὸς θέλας καὶ τοῦ πρώτου μῆκους καὶ πλάτους καὶ βάθους.<sup>84</sup> The two seem at first contradictory, but I do not think they are, for Plato and Philo were probably talking of different things. Taylor says that Aristotle has given no hint of what Plato meant by αὐτὸ τὸ ζῶον,<sup>85</sup> and is of course right; but if Themistius may be believed, as I think he may, the reference was to the κόσμος νοητός, or the ideal world.<sup>86</sup> This ideal world would of course partake of the various forms, the One, the Two (length), the Three (breadth), etc. But Philo is talking of something else. He is describing not the κόσμος νοητός but deity, and so insists that his monad is distinct from the other forms, whereby he raises his deity beyond the κόσμος νοητός. The distinction is rather a fine one for Philo himself to have made, since it would seem to have been done by one who had this passage, or some kindred passages from the Lecture on the Good, in mind. I should guess that the statement comes from Philo's source, for it is thoroughly Pythagorean in its approach to the problem, and is defending the same distinction between God and the forms which Timaeus Locrus is careful to draw.<sup>87</sup>

In his treatment of matter Philo continues on what seems to me to be fundamentally Pythagorean ground. Matter is the complete opposite to God, and its essential quality is its infinite bisectibility. The Pythagoreans said that matter, or the dyad, was subject to διχοτοία, or to ἡ εἰς τὰ ίσα διαιρεσίς. The infinite divisi-

<sup>84</sup> *De Anima* 404 b, 18 ff.

<sup>85</sup> *A Commentary upon Plato's Timaeus*, p. 110.

<sup>86</sup> Not the universe itself, as Hicks interprets it. Themistius is quoted by Hicks in his note *ad loc.*

<sup>87</sup> *De Anima Mundi et Natura*, 2: πρὶν ὁν ὠρανὸν γενέσθαι λόγῳ ἤστην ιδέα τε καὶ ὄλα καὶ ὁ θεὸς δαμιουργὸς τῷ βελτίσσον; cf. Taylor, *op. cit.*, p. 658.

bility of the dyad made possible that series of units which we call the numbers, and in an analogous way the division of matter produced phenomena, always compared to, and described as made up of, the numbers. Moderatus, a Neo-Pythagorean, said:

This material is cut up infinitely, so that numbers are distinguished from things counted in the same way as material things from immaterial.<sup>88</sup>

That this was the purpose of the divisibility of the dyad-matter was fully recognized by Philo, for he says that in the act of creating, the Creator used πάσιν ἀριθμούς καὶ πάσας ταῖς πρὸς τελειότητα ὁδίαις (§156). That is, there is an infinite series of bisections in the immaterial realm, to which corresponds a similar series in the material realm. It is incorrect to speak of this division as going on to infinity in either realm, for Simplicius warns us that the Pythagoreans thought of the process as being infinite only potentially, for actually there were specific individuals which, as individuals, were not so divided.<sup>89</sup> The Pythagorean term for these undivided ultimates was ἄτομα. The following statement is ascribed to Archytas: "Ἐκαστον δὲ πάλιν τῶν ἀνωθεν ἀντιδιαιρουμένων ὁδίως ἔχει διαιρέσεις, παραπλησίως μέχρι τῶν ἀτόμων καὶ οὐτιδανῶν καὶ καθ' ἐκαστα προϊόντας."<sup>90</sup> Aëtius, in Plutarch's version,<sup>91a</sup> has the following: οἱ ἀπὸ Θάλεω καὶ Πυθαγόρου παθητὰ σώματα καὶ τιητὰ εἰς ἀπειρον. It will be noted that Aëtius reports Pythagoras as making matter infinitely divisible, while the statement ascribed to Archytas stops the process of bisection at the ἄτομα. Aëtius has clearly a very old Pythagorean tradition in mind, since he ascribes it to Pythagoras himself, while the "Archytas" statement may be presumed to be from a later period. A reference to this change in Pythagorean teaching is made by Aristotle in the *Physica*, 187 a, 1 ff. Aristotle has been discussing the Eleatic arguments against the divisibility of Being, and here alludes to the influence of the argument upon ἔνιοι. "To the argument that all things are one if Being means one thing they (i.e., the ἔνιοι) concluded that Not-Being is." The ἔνιοι seem to be the group following the "lower

<sup>88</sup> Stob., *Ecl.*, I, i, 9; fr. 2, Mullach, *Fragm. Philos. Graec.*, II, 48: τοῦτο σώμα τεμνόμενον εἰς ἀπειρον· ώστε τὰ ἀριθμητὰ τῶν ἀριθμῶν ταύτη διαλλάττειν ἢ διαφέρει τὰ σώματα τῶν ἀσωμάτων.

<sup>89</sup> Simplicius, *In Physic.* (ed. Diels), p. 456, l. 9.

<sup>90</sup> Nolle, *Ps.-Archytæ Fragmenta*, p. 37, ll. 4 ff.; cf. Aristotle, *Met.*, 1083 b 13.

<sup>91a</sup> *Plac.*, I, 16; Diels, *Doxographi*, 314 f.

road" of Parmenides, whom Burnet has clearly proved to be Pythagoreans. Their ἀπειρον as anything existential involved the assumption, from the Eleatic point of view, of the existence of τὸ μὴ ὄν. The Pythagoreans were the only pre-Platonic school which had a dualism so fundamental as to lead them to protect their lower prime reality, the ἀπειρον, even by the ultimate resort of identifying it with Not-Being in the face of Eleatic arguments. Aristotle continues: "To the argument (of the Eleatics) from bisection they yielded by positing atomic magnitudes" (τῷ δὲ ἐκ τῆς διχοτομίας ἀτομα ποιήσαντες μεγέθον). The clearest explanation of this statement is to assume that the same school, the Pythagoreans, had originally taught what Aëtius tells us, that the ἀπειρον was infinitely divisible. When this theory of διχοτομία was analyzed by Zeno it appeared that the phenomenal world was impossible, from the points of view of magnitude, space, time, or motion alike, if the process of bisection could continue indefinitely. So the Pythagoreans posited ἀτομα as arbitrary ultimates in the divisions.<sup>91b</sup> But ἀτομα which are the product of bisections in the original ἀπειρον are entirely different from the ἀτομα of Democritus, which were themselves the prime reality. One would conclude that the change in Pythagorean teaching from the διχοτομία εἰς ἀπειρον to the διχοτομία εἰς ἀτομα took place certainly between the time of Zeno and Aristotle, and was probably contemporary with Zeno.

Philo has used these terms exactly and even kept the Pythagorean contrast between the material and the mathematical series: τὰ γὰρ αἰσθητά πάντα ἐπειδὰν μέχρι τῶν ἀτόμων καὶ λεγομένων ἀμερών διεξέλθῃ, πάλιν ἀπὸ τούτων τὰ λόγῳ θεωρητὰ εἰς ἀμυθήτους καὶ ἀπεριγράφους μοίρας ἀρχεται διαιρεῖν οὐτος δ τομεύς, . . . εἰς μῆκος ἀπλατὲς ἀσωμάτοις γραμμαῖς ἐμφερές (§131). Not only is Philo's terminology exactly that of the Pythagoreans, but that terminology is itself quite distinctive, for there could be no confusing these ἀτομα with the ultimate matter of the Atomists.

The current Pythagoreanism of Philo's last sentence is further

<sup>91b</sup> Simplicius notes (*In Phys.*, 138, 10, Diels) that Alexander considered Aristotle to be referring here to Xenocrates of Chalcedon. Xenocrates may well have had such a doctrine in the eight books he wrote on Divisions (*Διαιρέσεις*; Diog. IV, 13), but Aristotle's ἔνιοι seem to be a school of thinkers who had to yield (*ἐνέδωσαν*) former positions to new arguments. Xenocrates, who was apparently largely influenced by Pythagoreans, probably took the ἀτομα from them. A fuller notice of his teaching on the point will be found in Simplicius, *op. cit.*, 140, 6 ff., 142, 16 ff.

illustrated by a thoroughly Pythagorean passage in Plutarch,<sup>92</sup> where the question is raised what Plato meant when he said (if he ever did say it) that God always plays the geometer. Plutarch represents four spokesmen as expressing their opinions on the subject. One suggests the explanation that Plato meant to refer to the justice of the divine nature, since justice is a matter of proportional equality (§2). Another speaks in terms quite suggestive of Philo when he says of primitive matter that it is ἀπειρον, οὐ μεγέθει καὶ πλήθει, διά δ' ἀταξίαν καὶ πλημμέλειαν αὐτῆς τὸ δόριστον καὶ ἀπεράτωτον ἀπειρον εἰωθότων καλεῖν τῶν παλαιῶν (§3). Philo describes this primitive matter almost identically when he says that God did not make it, for it was ἄψυχον καὶ πλημμελή καὶ διαλυτήν, ἐτι δὲ φθαρτὴν ἐξ ἑαυτῆς ἀνώμαλόν τε καὶ ἀνίσον (§160). For Philo and this spokesman alike the process of creation began when by the application of the system of numbers and proportions the four elements were produced, though in the Plutarch passage the application is made not by division but by the drawing in upon formless matter of a series of geometrical lines which defined and segregated the various solid forms of geometry.<sup>93</sup> In §4 Plutarch introduces another speaker who tells how Pythagoras and Timaeus explained creation as the application to primitive matter of number, measure, and proportion, κοσμῆσαι λόγῳ καὶ μέτρῳ καὶ ἀριθμῷ τὴν φύσιν.

Philo is then thoroughly Pythagorean in his idea of creation as the application of the number system, whether expressed as numbers, geometrical figures, or proportion, to the unformed matter. By way of summary of what we have thus far seen of Philo's thought, it will be well to parallel another fragment ascribed to Archytas. In Philo, it will be recalled, we have the conception of an unformed *οὐσία* to which, by a series of divisions, is applied the number system, or the forms, and this act is done definitely by act of God working through the *Logos*. That is, he implies three fundamental principles, matter, or *οὐσία*, the number system, or forms, and God as the active agent. With this must be compared a fragment in Stobaeus<sup>94</sup> taken from a work attributed

<sup>92</sup> *Quaest. Conviv.*, VIII, ii, pp. 718 e ff.

<sup>93</sup> *Ibid.*: ἀριθμῶν δὲ καὶ λόγων ἔγγενομένων, οἷον δεθεῖσα καὶ περιληφθεῖσα γραμμαῖς, ἐκ δὲ τῶν γραμμῶν ἐπιπέδοις καὶ βάθεσιν, εἰδη τὰ πρῶτα καὶ διαφορὰς σωμάτων ὥσπερ θεμελίων παρέσχε πρὸς γένεσιν ἀέρος καὶ γῆς ὕδατός τε καὶ πυρός. Philo's first stage of the heavy and light is lacking, perhaps due to the fact that Plutarch's account is a bare reference to the general account of creation, with no attempt at detail.

<sup>94</sup> *Anthol.*, I, 41, 2; Nolle, fr. 1.

to Archytas, περὶ ἀρχῶν. Here the argument is elaborated that there must be two ἀρχαῖ of things, one the constitutive element of the tangible and visible, the other the constitutive element of the intangible and invisible. These two “Archytas” proposes to call οὐσία and εἰδος, themselves opposites (*ἀντιδιαιρούμεναι*) to each other, one the principle of good, the other of evil. Everything which comes into existence by nature or art shares in both, getting its individuality from the form, which is impressed upon the substrate οὐσία.<sup>95</sup> Now neither is naturally such as to combine with the other, so there must be a moving cause uniting them, which compels the assumption of a third ἀρχή, God.

God is the artisan and moving cause, ἡ ἔστω (Doric for οὐσία) is matter and what is moved, and form is the art according to which ἡ ἔστω is moved by the Mover. But since that principle which is moved has contradictions within itself, namely the powers of the general bodies, and since contraries need something to reconcile and unite them, they must be made to partake of the powers and proportions of numbers, and of the things demonstrated by numbers and geometry.

After repeating that this process requires the action of deity, he closes by saying that the scheme of equality applies only to rational quantities and that aspect of nature which is comprehensible by reason, while surds and irrationals fall within the realm of the unequal. The latter is identified with ἡ ἔστω, primal matter, and it is because of this quality that material things are subject to genesis and decay. Clearly he is referring to a scheme whereby the informing of unformed matter was a process of arranging it according to the τῷ ἴσῳ λόγῳ, of which Philo speaks more in detail. A further fragment<sup>96</sup> distinguishes phenomena into the ἐπιστατά and the δοξαστά, and says that the first are unmoved, the second moved, which, when read with the preceding, must mean that the combination of matter and form which constitute the material world belong in the second classification as material and moved. It is interesting in this connection to notice that Philo too restricted his process of creation by division (that is, of applying mathematical forms to matter), exclusively to the realm of the material and sensory, and says that αἱ ἀσώματοι καὶ θεῖαι ἐπιστῆμαι cannot be divided into these warring contraries.<sup>97</sup> That would seem to be what “Archytas” meant when he called them ἀκίνητα.

<sup>95</sup> καὶ ἡ μὲν μορφώ ἔστι ἡ αἴτια τοῦ τόδε τι εἰμεν· ἡ δὲ ώσια τὸ ὑποκείμενον, παραδεχόμενον τὰν μορφώ.

<sup>96</sup> Nolle, fr. 2.

<sup>97</sup> *Quis Heres*, 132.

In the τῶν ἐων λόγοις of this passage there is a hint of Philo's contraries, but only a hint. Can creation as a process of bisections in primal matter be traced also to Pythagoreanism? The connection seems to me quite probable. A trace of it is to be found in Ocellus Lucanus, much as he deviates from Philo in his general point of view. For Ocellus presents a scheme of reality based upon a thoroughly dualistic view of an eternally passive matter as over against God the active. From the primary σώματα are derived two principles which underlie all material phenomena, namely, the contraries which are always present to guarantee a balance, and the οὐσίαι, the four elements, whose relation to each other is one of proportion.<sup>98</sup>

But we are not dependent upon such passing hints. That the Pythagoreans regarded reality from the point of view of a series of contradictions is one of the most familiar facts about them. The original ten contradictions which Aristotle has preserved<sup>99</sup> seem long to have fascinated them<sup>100</sup> but probably never had any primary importance in the school, since several other old lists are extant and Alcmaeon, traditionally a pupil of the school, made the most diversified sort of list, apparently quite like Philo's.<sup>101</sup> That is, what was important for them was that reality was a balance of opposites, though different groups in the school catalogued them differently. Later Pythagorean logic seems to have been built upon the idea that everything was made of opposites, and that the best way to understand any given thing was to view it in terms of its constituent opposites, and in terms of that thing to which it was opposed as a whole. So all reality was schemed off as a series of successive divisions, with the result that we have lists of divisions which obviously must lie behind Philo's lists. A treatise on the subject called περὶ ἀντικειμένων was ascribed to Archytas by Simplicius, from which we have the following fragment:

By law and nature several things are opposed to each other: first, the contraries, as good to evil, health to illness, and truth to falsehood; second, states of being as opposed to their deprivations, as life to death,

<sup>98</sup> *De Universi Natura* (ed. Harder), §§18 ff.

<sup>99</sup> *Met.*, 986 a, 15 ff.

<sup>100</sup> See the fragments 35, 35a ascribed to Archytas, as edited by Nolle.

<sup>101</sup> Aristotle, *Met.* 986 a, 21 ff. See Zeller, *Philosophie der Griechen*, I, i (1919), 455–462, with Nestle's supplementary notes.

sight to blindness, and understanding to forgetfulness;<sup>102</sup> third, things in relation to each other, as double to half, ruler to ruled, despot to despoted; fourth, assertion to negation, as man to what is not man, the good to what is not good.<sup>103</sup>

A still longer fragment from the same treatise makes further distinctions, as of things between which there lies a mean, and things without such a mean, and describes the distinction between the γένος and είδος as being one of divisions of the γένος.<sup>104</sup> Mullah has shown how very similar this is to Aristotle's treatment of the subject,<sup>105</sup> but Simplicius preserves for us the fact that the Peripatetics believed that on this subject Aristotle had borrowed from the Pythagoreans, for he says: φαίνεται δὲ καὶ τὰ περὶ ἀντικειμένων Ἀριστοτέλης ἐκ τοῦ Ἀρχυτείου βιβλίου μεταλαβόν τοῦ περὶ ἀντικειμένων ἐπιγεγραμμένου.<sup>106</sup>

Finally we have this passage which is closest to Philo of them all:

Substance is divided into material and immaterial, matter into animate and inanimate, animate into what has and what has not sense perception, that which has perception into animal and plant-animal, which last has no further subdivisions. But the animal is equally divided into the logical and illogical, the logical into mortal and immortal, the mortal into its subordinate species, man, cattle, horse, and so forth, and the species into the particular individuals. And each of the above opposites produced by division can themselves be bisected right on down to the atoms and trifles and individuals.<sup>107</sup>

<sup>102</sup> Επιστάμα λάθα I am tempted to translate λάθα here "stupidity" which the contrast calls for.

<sup>103</sup> Nolle, fr. 36; Simplicius, *In Categor.* (ed. Kalbfleisch), p. 382, ll. 11 ff.

<sup>104</sup> Nolle, fr. 37.

<sup>105</sup> *Fragm. Philos. Graec.*, II, 127. See for example *Met.*, 1037 b 28 ff.; *Anal. Post.*, 91 b, 28 ff., 96 b, 35; *Part. Anim.*, 643 a, 27 ff.

<sup>106</sup> *In Categor.* (ed. Kalbfleisch), p. 382, ll. 7 ff.; cf. pp. 407, ll. 15 ff., and 409, ll. 7 ff. This entire section of Simplicius is filled with Pythagorean parallels to Aristotle. See also David, in Brandis, *Scholia in Arist.*, 75 a, 36 ff.

<sup>107</sup> This is the first definition, that of οὐσία, in a fragment entitled 'Ἀρχύτου καθολικοὶ λόγοι δέκα, in Nolle, *op. cit.*, p. 36, ll. 34 ff.: Διαιρεῖται ἡ οὐσία εἰς σῶμα καὶ δάσματον, τὸ σῶμα εἰς ἔμψυχον καὶ δύψυχον, τὸ ἔμψυχον εἰς αἰσθητὸν καὶ ἀναίσθητον, τὸ αἰσθητὸν εἰς ζῷον καὶ ζωόφυτον, οὐν ἀντιδιαιρούμενον μέν. Διαιρέεται δὲ δῆμως τὸ ζῷον εἰς λογικὸν καὶ ἀλογὸν, τὸ λογικὸν εἰς θυητὸν καὶ δθάνατον, τὸ θυητὸν εἰς τὰ ὑπ' αὐτῷ τῷ εἶδει, δνθρωπὸν, βοῦν καὶ ἵππον καὶ τὰ λοιπά· τὰ δὲ εἴδη εἰς τὰ καθ' ἔκστα

As will be noted soon, it is unfortunately impossible to demonstrate whether this sort of logical classification was originally Pythagorean or not, since Plato has statements obviously to be classed with the above. But it can be stated at once that this Pythagorean version is so much closer to Philo than anything in Plato that with whichever of the schools it originated Philo would seem to have had the idea from Neo-Pythagoreanism.

When one connects these lists with the Pythagorean idea of the infinite divisibility of the dyad, one recognizes that for many Pythagoreans the lists of opposites must have had more than logical significance. For the Pythagoreans seem to have been divided into two groups, one of which taught a creation in time and one did not. Of the latter group Ocellus Lucanus is the most familiar representative.<sup>108</sup> Timaeus Locrus tells how God the creator made the universe by combining unformed matter with its contrary, form,<sup>109</sup> doing this in such a way that the elements correspond to geometric figures (§5), and at the end are arranged in a fixed ratio or proportion to each other (§6). Human beings are also arranged in a proper proportion of the humors, and when these become unsymmetrical the result is illness (§10), while beauty and health are products of physical harmony and symmetry (*ibid.*). Yet this is for him a process done λόγῳ (§2), and not in time, if the word is original. That is, the whole description of the origin of the world was not intended to be taken literally, but only as a mythical account of the relations of cause and effect as they have been operating eternally. There is some evidence that other Pythagoreans did not agree with this notion that there never was a beginning of the phenomenal world, for Aëtius lists Pythagoras as one who taught the doctrine of creation.<sup>110</sup> So, while there is no fragment of a Pythagorean which explains creation just as Philo does, since the elements of his discussion are so thoroughly Pythagorean his remarks are all the more interesting

οὐτιδανά. "Ἐκαστον δὲ πάλιν τῶν ἀνωθεν ἀντιδιαιρουμένων ιδίως ἔχει διαιρέσεις, παραπλησίως μέχρι τῶν ἀτόμων καὶ οὐτιδανῶν καὶ καθ' ἐκαστα προϊούσσας. See also the fragment published by Delatte, *Études sur la littérature Pythagoricienne* (1915), p. 187.

<sup>108</sup> Cf. a fragment (No. 21) ascribed to Philolaus, Mullach, *Fragm. Philos. Graec.*, II, 6.

<sup>109</sup> *De Anima Mundi*, 2.

<sup>110</sup> *Plac.*, II, iv, 1; Diels, *Doxogr.*, 330. But Stobaeus adds to this, apparently from Aëtius: Πυθαγόρας φησὶ γενητὸν κατ' ἐπίνοιαν τὸν κόσμον, οὐ κατὰ χρόνον (Diels, *loc. cit.*).

as reflecting a Pythagorean sect which we would not otherwise know.

The part played by harmony in holding these contraries together calls for little further exposition. The one detail that needs comment is the fact that Philo says that in making this universal harmony God was an artist. For Burnet points out that the idea of the processes of nature as being analogous to works of art, by which the product is a harmony of opposites, is in the line of the Heracleitean tradition.<sup>111</sup> But the conception of God as an artist can be paralleled too closely in Pythagoreanism for me to think that Philo got it from another source. It is only necessary to quote the passages. Philo says:

Ἡ τοῦ θεοῦ τέχνη, καθ' ἣν ἐδημιούργει τὰ σύμπαντα, οὔτε ἐπίτασιν οὔτε ἀνεσιν δεσχομένη, μένουσα δὲ ἡ αὐτὴ κατὰ τὴν ἐν ὑπερβολαῖς ἀκρότητα τελείως ἔκαστον τῶν δυντῶν δεδημιούργηκε, πάσιν ἀριθμοῖς καὶ πόσαις ταῖς πρὸς τελείστητα ἰδέαις καταχρησιμένου τοῦ πεποικότος. . . . Ἐπήνεσε δὲ δὲθός οὐ τὴν δημιουργηθείσαν ὅλην, . . . ἀλλὰ τὰ ἑαυτοῦ τεχνικὰ ἔργα κατὰ μίαν ἴσην καὶ διμαλήν δύναμιν καὶ ἐπιστήμην διοιλαν καὶ τὴν αὐτὴν ἀποτελεσθέντα.<sup>112</sup>

Aside from its association with the very Pythagorean use of numbers in creation, the conception of God as artist has here clearly the same background as the following from the fragment attributed to Aristaeus, the Pythagorean:

Λέγοιτο δέ καὶ ἀρμονία φύσιος, δτι πάντα κατὰ λόγον φύεται τὸν ταύτας ποταλλήλως, ὡς δὲ τεχνίτας ποτὶ τὰν τέχναν, οὕτως θεός ποθ' ἀρμονίαν. δι τε γάρ τέχνα ἔστι λόγος καὶ ἰδέα τῶν γινομένων καὶ φύσις. τὸ μὲν ἔργον ἀμαρτάνεται ἐν τοῖς τεχνίταις, ὅκκα παραλλάξῃ τὸν τὰς τέχνας λόγον· τὰ δὲ γινόμενα φύσι φθείρεται ππρά καὶ ἀναρθρα γινόμενα, ὅκκα παραλλάξῃ τὸν τὰς ἀρμονίας λόγον.<sup>113</sup>

The question of the harmony of the universe leads to the function of the Logos as source of cosmic harmony. The contrast between the Heracleitean and Pythagorean points of view on this subject has already been pointed out. But when Philo calls the principle of cosmic harmony the Logos he goes beyond anything I can find directly in Pythagoreanism. Was this his own contribution, or was it the work of his source? A plain indication of Pythagorean teaching is found in Plato's *Timaeus* (31 b, c) to

<sup>111</sup> *Early Greek Philosophy*, p. 164.

<sup>112</sup> §§156, 160. On this passage see above, p. 119, n. 5.

<sup>113</sup> Stobaeus, *Ecl.*, I, 20, 6 (Mullach, *op. cit.*, II, 52 ff.).

which reference has already been made.<sup>114</sup> Timaeus is represented as describing primitive matter as made up of two fundamental elements, fire and earth;

but it is impossible for two things alone to be well united without a third; for there is need of some intermediary bond to bring them together. And the best of bonds is that which most perfectly draws itself into a unity with the things to be bound, and this it is the nature of proportion to accomplish in the most beautiful way.

The discussion goes on to the matter of mathematical proportions. So, to make a proper proportion, air and water were put in as mean terms between fire and earth.<sup>115</sup> Plato uses ἀναλογία for proportion here, but λόγος would have been equally intelligible. The notion is not expressed exactly as Philo does, but that ἀναλογία or λόγος is the principle of the ultimate harmony of the elements, what holds them together, is the notion common to Philo and the *Timaeus*, and there can be no doubt that Plato is here following very closely his Pythagorean source. So Philo, obviously not drawing upon Plato, develops his thought in even more elaborate Pythagoreanism than the *Timaeus*. For him the Logos is at once the Cutter of the universe and the glue binding it together. This twofold function is described in connection with his discussion of the candlestick, which will bear closer examination. Philo brings in the candlestick only to justify a Pythagorean treatment of the number seven from the point of view of the Jewish Scriptures, for it is in the seven that he sees the fitting type of this Logos that at once cuts and binds. The number seven, he says, is made up of the symbol of the universe, six, plus the unit, God, which lies between the two triads, and so is the symbol of the Monad which at once makes the divisions and unites them into a whole greater than the six itself (§§215 ff.).<sup>116</sup> But the One is not only between the divisions; it pervades the whole universe, and so is symbolized by the malleability of the gold of the candlestick (§217); it is a glue and a chain binding the universe together (§188). This latter the One does, he implies, after the model of

<sup>114</sup> See above, p. 129.

<sup>115</sup> The fact that this union of the four elements produces an Empedoclean φιλία does not obscure its predominant Pythagoreanism.

<sup>116</sup> Cf. Moderatus, the Pythagorean, fr. 3. Mullach, *Fragm. Phil. Gr.*, II, 49: καὶ μὴν εἰς δύο διαιρουμένων ἵσα, τοῦ μὲν περισσοῦ μονὰς ἐν μέσῳ περιεστὶ, τοῦ δὲ ἀρτίου κενὴ λείπεται χώρα καὶ ἀδέσποτος καὶ ἀνάριθμος, ὡς δὴ ἐνδεσοῦς καὶ ἀτελοῦς ὄντος.

the number seven, which number the One produced without recourse to matter, so that the seven is called the "motherless," again a familiarly Pythagorean description of the seven (§216).<sup>117</sup> So Nicomachus Gerasenus, with reference to the Pythagoreans, makes the seven preëminently τῆς γονιμότητος αἴτιαν, and goes on to describe how this could be:

Γένεσις μὲν γὰρ πᾶσα ἐξ ἑναντίων, ὑγροῦ ἔνοροῦ, ψυχροῦ θερμοῦ, ἑναντία δὲ οὐχ δμονοῖ οὐδ' εἰς σύστασιν τίνος συντρέχει δίχα δμονίας· δμονιῶν δὲ ἀρίστη, πάντων ἐπιδεκτική τῶν συμφώνων λόγων, ἡ κατὰ τὸν λε' ἀριθμόν.<sup>118</sup>

In his view, the number thirty-five is only a refinement of the number he is discussing, seven. Similarly it is only a variant for Philo's λόγος τομεύς when Nicomachus makes the world consist of the four elements and the three connecting analogies and harmonies lying between each of these elements.<sup>119</sup>

As he goes on into detail to discuss the candlestick (§§222 f.) Philo sees also a symbol of the seven planets in the seven branches with the largest and most important of the seven in the middle. This he thinks confirms the order of the planets given by those who have, as he says, best described the heavens. He gives what he considers to be the correct list with Saturn, Jupiter, and Mars above the sun, Mercury, Venus, and the moon below it.<sup>120</sup> Philo's sharp emphasis upon regarding the sun as the central body reflects the thought of the scientists of the day who were developing a heliocentric system. Bousset has examined the passage carefully and concluded that Philo was drawing upon a source influenced by Egyptian tradition because he lists the order as sun, Mercury, Venus, instead of the more usual sun, Venus, Mercury.<sup>121</sup> A possible source is Poseidonius, since the only other passage in which

<sup>117</sup> In *Leg. Al.*, I, 15 Philo calls this conception of the seven as the ἀμήτωρ specifically a Pythagorean teaching, and he frequently refers to it: *Quis Heres*, 170; *Decal.*, 102; *Vit. Mos.*, II, 210; *Spec. Leg.*, II, 56. Cf. Diels, *Fragm. Vorsok.*, 32 B 20, where it is classed as a possible, but doubtful, idea of Philolaus himself. See also Anatolius in Iamblichus, *Theol. Arith.*, VII (ed. De Falco), p. 54, l. 11, and De Falco's note *ad loc.*

<sup>118</sup> In Iamblichus, *Theol. Arith.*, p. 63, ll. 1 ff.

<sup>119</sup> *Ibid.*, p. 67, ll. 5 ff.

<sup>120</sup> The same list is given in *Quaest. Exod.*, ii, 75, in commenting upon the candlestick, obviously with reference to the same source or doctrine.

<sup>121</sup> *Jüdisch-christlicher Schulbetrieb*, pp. 30–37.

Philo's exact list is given in Cicero's *Somnium Scipionis*,<sup>122</sup> in a passage generally assumed to have been inspired by Poseidonius. The later Pythagoreans were famous for teaching the doctrine that the sun was central among the planets,<sup>123</sup> as were some of the "mathematicians."<sup>124</sup> The little importance attached to the order of the last two planets is shown by the fact that in giving the Platonic order Aëtius misquotes Plato to put Mercury below Venus when Plato has it the other way,<sup>125</sup> while another tradition, ascribed to unnamed Egyptians by Macrobius, made these two planets satellites of the sun, appearing now below and now above it.<sup>126</sup> In the scarcity of our material I can see no reason why Philo might not have had his list of the planets from the same lost Pythagorean source from which he took the rest of his treatment of the number seven, though that source might itself have had its origin in Egypt.

In view, then, of the thorough Pythagoreanism of Philo's regarding the material universe as made up of a series of entities related to each other by arithmetical and proportional equality, I am confident that his term δὲ λόγος τομέως is a derivation from Pythagorean logic, which either he or his source has raised from a logical term to a cosmic principle, in the same way in which the Stoic terms λόγος προφορικός and λόγος ἐνδιάθετος were discussed as aspects of the universal λόγος. That Philo was quite aware of the connection of his "Cutter" with the logical term appears in his saying, after he has asserted that λόγος in man and the universe are each one and undivided:

But themselves undivided, they divide myriads of other things. For

<sup>122</sup> *De Re Publ.*, vi, 17; cf. Macrobius, *Somn. Scip.*, I, xii, 13–14; *xix*, 2–4.

<sup>123</sup> Theo of Smyrna (ed. Hiller), p. 138, ll. 10 ff.: Chalcidius, *Comment. in Tim.*, 71 (Mullach, *Fragm. Phil. Graec.*, II, 197); Plutarch, *De Anima Procreat.*, 31, 1028 b.

<sup>124</sup> Cicero, *De Divinat.*, ii, 91: Aëtius, *Plac.*, II, xv, 5 (Diels, *Doxogr.*, 345). The mathematicians were in disagreement, says Aëtius, some following Plato and some making the sun central among the planets.

<sup>125</sup> See Bousset's note, *Jüdisch-Christl. Schulbetrieb*, p. 32, n. 3. I think Plato had this order of the planets from the Pythagoreans, since that order is ascribed to them by Alexander, *In Arist. Met.*, Brandis, *op. cit.*, 542 a, 12 ff., and appears in the *Timaeus*, 38 d. Probably it was the order taught by Philolaus of which Aëtius tells us (II, vii, 7) only: 1. counterearth; 2. earth; 3. moon; 4. sun; above which are the five planets (unnamed); Diels, *Doxogr.*, 336 f.; *Fragm. Vorsok.*, 32 A 16.

<sup>126</sup> Macrobius, I, *xix*, 5 f. See Hultsch in Pauly-Wissowa, *R.-E.*, II, 1859 f.

the divine Logos differentiated and distinguished all the things in nature, and our mind, in so far as it apprehends matters and bodies intellectually, separates them ad infinitum into an infinite number of parts, and never ceases cutting ( $\tauέμνων$ ). This comes about by reason of its similarity to the maker and father of all things. For the divine is unmixed and unmingled, completely without parts, yet is a cause of mixture, mingling, distinctions, and of an infinite variety of parts in all the universe. So naturally also the things which resemble it, the mind in us and the one above us, while themselves without parts and undivided, can vigorously separate and discriminate all existing things (§§234–236).

So the  $\lambdaόγος τομέως$  is paralleled to the divisions made by reason in logic, and since it has been seen that Philo's list of opposites corresponds verbally with what fragments we have of later Pythagorean logic,<sup>127</sup> there can be no doubt of the origin of the conception. Was the generalization from the human dividing reason to the divine  $\lambdaόγος τομέως$  a step taken by Philo with a Pythagorean treatise on logic before him, or had it already been done by his source? The question can be answered only as a matter of opinion, but my impression is quite strong that he found it fully developed in his source. For the conception was one about which he was so enthusiastic that he must work out for every possible detail the authority of Moses, and I do not believe that he has invented the very element about which he is most enthusiastic. The obvious break is between this doctrine and Philo's application of it to the Pentateuch, rather than between the logical and the metaphysical aspects of the theory. Aëtius seems to have known a Pythagorean tradition thus adapted to theism when he says that Pythagoras taught, in addition to mathematical symbolism, that the two  $\deltaρχαι$  are  $\eta\ \mu\varepsilon\nu\ \acute{\epsilon}\pi\ tō\ ποιητικὸν\ αἴτιον\ kai\ εἰδικόν$ ,  $\delta\pi\epsilon\rho\ \acute{\epsilon}\sigma\tau\ i\ νοῦ\ \delta\ θεός$ ,  $\eta\ \delta\varepsilon\ \acute{\epsilon}\pi\ tō\ παθητικὸν\ te\ kai\ ὄλικόν$ ,  $\delta\pi\epsilon\rho\ \acute{\epsilon}\sigma\tau\ i\ δρατὸς\ κόσμος$ .<sup>128</sup> And one has only to recall Timaeus Locrus. Such theistic developments must have been familiar among Pythagorean mystics of all ages, and none would have been more natural than the using by Pythagoreans of their own terms for the working of the human intellect to describe the operation of the cosmic intelligence and creative mind. Similarly the substitution of God for the  $\acute{\epsilon}\pi\epsilon\iota\varphi\ oὐμα$  outside the universe as its envelope and  $\tauόπος$  is also probably a step taken already in Philo's source. It is hard to think of Philo as first himself studying a purely mathematical philosophy, then transforming it into a theistic system, and after that adapting it to the Torah, or rather adapting the Torah to it.

<sup>127</sup> See above, p. 142.

<sup>128</sup> *Plac.*, I, iii, 8; Diels, *Doxogr.*, p. 280; *Fragm. Vorsok.*, 45 B 15.

As I have stated elsewhere, he seems to me usually to be trying to reconcile two fairly definite orthodoxies as they presented themselves to him, and not to be adding much to either except their combination.<sup>129</sup>

But if Philo's source had gone thus far before him in developing the doctrine of God and the "Cutter" I do not think it likely that it went further, and was already, as Bousset has been seen to suggest,<sup>130</sup> a Hellenistic Jewish adaptation of the doctrine of ἴσοτης to these same scriptural passages. Bousset seems to have based his conclusion simply upon the fact that the same source is used both in the passage under discussion from the *Quis Heres* and in *Quaest. Gen.*, III, 5. The argument would have had more force if the same source, or at least the same conception, did not clearly lie behind a number of other passages in Philo, where it is connected with other scriptural texts. These passages must for a moment be considered.

The *De Plantatione* 10 is very corrupt textually, but is recognizably a denial of the Stoic mutual commutation of the elements and the possibility of their dissolution successively into ultimate fire.<sup>131</sup> Instead, Philo speaks for a permanent division of the four elements which are brought together by the world harmony after the analogy of the spoken word: that is, the elements correspond to the consonants which are kept apart by the vowels, the Logos, which like an arbitrator brings them together, at the same time keeping them separated. This is quite typically Pythagorean like

<sup>129</sup> See my *Jurisprudence of the Jewish Courts in Egypt* (New Haven, 1929), chap. i.

<sup>130</sup> See above, p. 122.

<sup>131</sup> This theory of the commutation of the elements which Philo usually rejects is admitted, merely in passing, in *Quaest. Exod.*, ii, 81: "Namque quatuor elementa cognationem habent inter se tam substantia, quam circumactione: substantia, quum mutuo commutantur; circumactione vero, quoniam rectum motum continent de centro superius ignis et aër, subque centro aqua et terra; caelum vero non directe, sed circuitu circumfertur, figuram habens undique aequalem perfectissimam. . . . Partes terrae iuxta mathematicos dicuntur sexaginta mensurari." Philo is again working a source from the "mathematici" over into his Scriptures, this time without noticing that he has a source with a theory of the elements different from his usual Pythagorean theory. Cf. *ibid.*, 88: "elementorum mutua inter se commutatio communionem eorum evidenter arguit." Such confusion could come only from one who had not himself thoroughly mastered the subject in his own mind, and who was following written sources closely and rather indiscriminately.

the rest, and is in harmony with the λόγος τομένς, but is not referred to the same passage of the Bible.

A more important parallel is *Spec. Leg.*, IV, 230–238. Here Philo tells us that those people who have most accurately described the phenomena of nature (οἱ τὰ φύσεως ἀκριβοῦντες) have represented ισότης as the μήτηρ δικαιοσύνης. From this he goes on to describe ισότης, either direct or proportional, as the principle by which the whole heaven is arranged, day and night, equinoxes, the phases of the moon, and the seasons. Similarly it is the principle behind the eternal and unchangeable laws of heaven and earth, manifesting itself in cities as democracy, in bodies as health, and in individual souls as καλοκάγαθία. Since ισότης is thus the ultimate source of law, and since the δικαιος is always synonymous with the νόμος, Philo equates ισότης and δικαιοσύνη at the end, and says that this is enough on the subject to arouse the memories of those who are fond of science (φιλεπιστήμονες), and to be suggestive to the ignorant. Again the only new departure here, the identification of the cosmic ισότης with the cosmic δικαιοσύνη, is familiarly Pythagorean,<sup>182</sup> while the reference to those who most accurately describe nature would be a strange way for Philo to express himself in alluding to a Jewish scriptural commentary. He feels that the scientific theory is so familiar that for any learned person he needs only to refer to it to be understood.

Again in *Quaest. Exod.*, II, 56, he is commenting upon the statement that the four rings of the ark should be fitted two on each side. Of this he says that there are two possible interpretations; one that the two sides represent respectively the intelligible and the sensible, each of which is divided in turn, the intelligible into mortal and immortal, the sensible into light and heavy; the light is again divided into air and ether, the heavy into earth and water. But there are some, he says, who take the two sides as representing the equinoxes out of which the four seasons arise.

<sup>182</sup> The famous definition of δικαιοσύνη as ισάκις ισος is preserved in the *Magn. Moral.*, 1182 a, 14. The phrase δικαίως μάτηρ appears in Diogenes (Mullach, *Frag. Phil. Graec.*, I, 535), while Polus the Pythagorean (Stob., *Floril.*, ix, 54), describes how justice as harmony reveals itself in the cosmos, the city, the household, bodies, and souls as mother and nurse of all the virtues in a way closely parallel to Philo. Plato can have had only the Pythagoreans in mind when he tells how the “wise” teach that οὐρανὸν καὶ γῆν καὶ θεοὺς καὶ ἀνθρώπους τὴν κοινωνίαν συνέχειν καὶ φίλιαν καὶ κοσμιότητα καὶ σωφροσύνην καὶ δικαιότητα, καὶ τὸ δλον τούτο διὰ ταῦτα κόσμουν καλοῦσιν. . . . ἡ ισότης ἡ γεωμετρικὴ καὶ ἐν θεοῖς καὶ ἐν ἀνθρώποις μέγα δύναται; *Gorgias*, 508 a.

So Philo is certainly not the only Jew of his civilization who is trying to reconcile Jewish Scriptures with Greek ideas, or even with the Neo-Pythagorean treatment of the universe in terms of divisions.

In *Quaest. Exod.*, II, 118, the Logos is described as the bond uniting and harmonizing the contraries, light and heavy, and the four elements, the light air and fire as opposed to the heavy earth and water.<sup>188</sup> The same body of ideas is again clearly being utilized.

It is then quite impossible to prove that Bousset is wrong when he suggests that the source which Philo is epitomizing in *Quis Heres* is a Jewish source where the same passage of Scripture (Gen. 15.10) was similarly treated. But his argument is inconclusive that Philo had such a source merely because on the two occasions when he discusses the scriptural "divisions in the midst" the same philosophical source appears, since it likewise appears in connection with other biblical texts. The fact that other people are referred to by Philo as having been reconciling this same general body of material with the Pentateuch would have strengthened Bousset's argument had he been aware of it. But even so I do not think he is right. Philo seems himself to have known the doctrine immediately from philosophic sources, and to be working over into the Bible an account of the world familiar in his day.

It may be a matter of surprise that I have not already made frequent reference to what would to some be the obvious explanation of the source of Philo's ideas, the famous passage in the *Timaeus* where the Creator is described as making a great mixture of same, other, and being, and then as cutting this up into pieces, by arranging which in a great proportional system, where both the arithmetical and harmonic or geometric proportions are represented, he produces the world soul. The parallels with what Philo says are striking, but seem to me to indicate a relation of uncle and nephew rather than of ancestor and descendant. Plato is himself notoriously drawing upon the Pythagoreans for the passage, and yet the differences from Philo are as striking as the likenesses. In the first place, Plato is speaking of an ideal and ultra-material concept, the world soul, while Philo is describing the material world. Second, the pieces cut off according to Plato's description are not bisections, as in Philo, but pieces progressively large until there have been segments made which form a

<sup>188</sup> The same contraries appear also in *Sacrif. Ab. et Cain.*, 108.

definite series of proportions, after which the mixture is exhausted. With this the dividing is completed, except for a single great bisection of the whole to make it as a totality represent the antithesis of same and other. There is no hint in Plato of the indefinite process of bisections which Philo reflects, and no hint that this is the process by which the material world is itself constructed. It seems to me that the Pythagorean notion of the infinite divisibility of the dyad is very old, and that Plato's Pythagorean source has used the imagery of that conception to explain specifically the origin of the world soul. But that Philo or his source could have worked out the theory of creation in the *Quis Heres* simply on the basis of the suggestions in the *Timaeus* seems to me at the least extremely doubtful in view of the differences between the two and the general use of bisections and proportion which has been found in Neo-Pythagoreanism.

If it may be assumed that the Pythagoreanism of Philo's source has been sufficiently indicated, there is still something to be said of the relation of that source to Heraclitus. It has already been pointed out that while Philo here refers to a teaching of Heraclitus that "one thing consists of two opposite parts; when that one thing is bisected the two parts are known": yet the two are fundamentally different in their treatment of the opposites. With Heraclitus the opposites were the way up and the way down, a simultaneous and continuous process of decay and of growth, so that the world was eternally balanced between the two processes, with no room for either creation or final cataclysm. But Philo preferred to put his opposites into a Pythagorean fixity which would not fit into the philosophy of Heraclitus at all.<sup>184</sup> The problem with the source is to see how far it could have been influenced by a Heraclitean prototype from which the reference to Heraclitus would ultimately have derived.

In such a problem nothing helps so much as a parallel document which may reasonably be supposed to have used the same, or a derivative, source. Such a document seems to me to exist in the Περὶ κόσμου. It will be recalled that the Περὶ κόσμου is a peculiarly syncretistic document,<sup>185</sup> which describes a world defi-

<sup>184</sup> See above, pp. 132 f.

<sup>185</sup> W. Capelle, "Die Schrift von der Welt" in *Neue Jahrbücher für das klassische Altertum*, XV (1905), 529–568, and Zeller, *Philosophie der Griechen*, III, i, 653–671, have spoken most strongly for Poseidonian influence upon the author, while recognizing the presence of other, especially Aristotelian, elements. I have used both Zeller and

nately bounded by the sphere of heaven, a great revolving circle made of ether and containing the fixed stars.<sup>186</sup> Within it are the seven concentric circles of the planets, whose names are given in the Platonic order; that is, ending Mercury, Venus, sun, and moon.<sup>187</sup> Below the ethereal and divine heavenly φύσις is the realm of that great contrasting φύσις whose essence is passivity and corruptibility (396 a, 31). The four elements seem to be four phases of this single material nature, though they are thereafter always spoken of as distinct elements, however much they are being intermingled. They are arranged in four concentric circles made up predominantly of fire, air, water, and earth. Like Philo he contrasts water as twofold, the sort of water found in fountains and rivers, and that in the sea; and land as that of continents and islands.<sup>188</sup> So altogether there are five distinct elements. After a description of the continents and oceans the document goes on to

Capelle freely, but cannot forget Bousset's warning (*Schulbetrieb*, p. 36) that scholars have been much too ready to ascribe material of all sorts to Poseidonius.

<sup>186</sup> On the Aristotelian character of this astronomy see Capelle, *op. cit.*, p. 537, n. 2. Philo has this same contrast between the ether and the four elements in *Quaest. Gen.*, iii, 6, immediately following his reference to the opposites and Heraclitus in §5. He got this from his source directly, apparently still the same source which also lies behind the Περὶ κόσμου, since in general he did not like the theory of ether, but used fire as the material of heaven. See Drummond's excellent remarks, *Philo Judaeus*, I, 273 ff. The Περὶ κόσμου derives ether, like Plato and Aristotle, from ἀεί θεῖν (see Forster's note to 392 a, 5 ff., in his translation in the Oxford translations of Aristotle), and rejects the derivation from αἰθεσθαι, which probably goes back ultimately to Anaxagoras (Arist. *De Caelo*, 270 b, 24 ff., and Simplicius *ad loc.*; Diels *Fragm. Vorsok.*, 46 A 73), but would seem likely to have been in this source since it is specifically approved by Philo in *Conf. Ling.*, 156. Philo seems to me to have rejected the ether because it is really not the element of heaven itself and the stars (cf. 392 a, 5 with *ibid.*, line 30), but the element surrounding them, and that place he has reserved in his mind for immaterial deity.

<sup>187</sup> 392 a, 19 ff. See Bousset, *Schulbetrieb*, p. 32, n. 3; Capelle, *op. cit.*, p. 557, n. 4, points out that Mercury and Venus are satellites of the sun at 399 a, 8.

<sup>188</sup> 392 b, 14 ff.; cf. 393 a, 5 ff.: αὐτοῦ γε μὴν τούτου τὸ μὲν ὑγρόν ἔστιν, δὲ καλεῖν ποταμοὺς καὶ νάματα καὶ θαλάσσας εἰθίσμεθα, τὸ δὲ ξηρόν, δὲ γῆν τε καὶ ἡπείρους καὶ νήσους δνομάζουμεν. Philo, *Quis Heres*, 138: γῆ μὲν γὰρ εἰς ἡπείρους καὶ νήσους διηρείτο, ὅδωρ δὲ εἰς θάλασσαν καὶ ποταμοὺς καὶ δυον πότιμον. Capelle, *op. cit.*, 536 ff., of course sees Poseidonius in this.

what seems to me a Heracleitean study of exhalations, phenomena atmospheric and earthly, in which it is shown how the elements are thoroughly changeable into each other,<sup>139</sup> and mixed, with the result that "similar conditions are produced in the air and in the earth and in the sea, causing decay and generation in detail, but preserving the whole free from destruction and generation" (396 a, 28 ff.). This sentence is distinctly not Stoic, denying as it does both the creation and destruction of the cosmos as a whole, and making no room for the Stoic cycles of construction and ἐκπύρωσις.<sup>140</sup> The author goes on to discuss this point more at length. The universe is composed of the contrary principles of dry, moist, hot, and cold, yet does not perish. The explanation of such a phenomenon is to be found in the cosmic harmony, which is made up out of the balance of contradictions, classes, and natures, represented in a city as the interrelation of classes to make a commonwealth, in man as the eternal adjustment of male and female, in art as the blending of colors and light and shade, in music as the consonance of high and low tones, in speech as the mutual balance of vowels and consonants. This, practically all of which has appeared in the Philonic passage under discussion, is now pulled together by a quotation from Heraclitus: "Junctions are: wholes and not wholes, that which agrees and that which differs, that which produces harmony and that which produces discord; from all you get one, and from one you get all" (396 b, 19 ff.: Forster's translation). This harmony is brought about by a "single divine power extending through all, which has created the universe out of separate and different elements, air, earth, fire, and water," shutting them all up in the heavenly sphere,

<sup>139</sup> Capelle tries to trace this entire section of the phenomena of winds and light to Poseidonius, not as peculiar doctrines of that philosopher, but as notions he took over from various sources, while the Περὶ κόσμου took them from Poseidonius. Capelle's evidence seems to me quite inconclusive.

<sup>140</sup> Capelle (p. 552), with not a particle of evidence, calls this at once Stoic and Poseidonian. He does not see that the eternal permanence in its balance of interplaying elements and opposites, is fundamentally un-Stoic, and that it is such an eternal permanence that is meant by this sentence. There were Stoics who gave up the doctrine of the ἐκπύρωσις, conspicuously Panaetius (Cicero, *Nat. Deor.*, ii, 118; Diog. Laert., vii, 142; Aulus Did., Diels, *Doxogr.*, 469 b, 7; Stob., *Ecl.*, I, xx, 1), but not Poseidonius, in spite of the statement in Philo's *Aeter. Mundi*, 76. Bernays was right in taking this out of the text, for that Poseidonius taught the destruction of the world is specifically stated by Diog. Laert., vii, 142.

and forcing them to agree with each other, thereby effecting a stable permanence. The permanence is accomplished by the fact that the four elements are put together in equal distribution (*ἴσουντος*); so equality preserves concord (*διόδοια*), and concord preserves the universe. The beauty of the universe is extolled, its regularity in the heavens, in the seasons, in day and night, month and year, its swiftness, brightness, and incorruptibility. It has divided (*ἐξώπιτε* 397 a, 17) animals into those of air, earth, and water. All its strange phenomena, such as rain, wind, the coming and passing of vegetation, all are in a sequence of balance, each a check upon the other, as birth checks decay, and decay checks birth. This makes an eternal and unbroken permanence for the whole.

Such a description of the universe may contain Stoic terms, but, as has been said, is quite opposed to Stoicism in its fundamental feature of the permanence of the totality as over against the constant changing of details.<sup>141</sup> But in this it is exactly the view of Heracleitus, for Burnet has ably demonstrated the fact that the Stoic *ἐκπύρωσις* has no place whatever in Heracleitus' balance of opposites.<sup>142</sup> Burnet's discussion of Heracleitus seems to me in error only when he suggests that Philo's Pythagorean discussion and lists of opposites and bisections came directly from Heracleitus and can be ascribed back to him.<sup>143</sup> Philo and the Περὶ κόσμου obviously refer to the same treatise and passage of Heracleitus; but it is the Περὶ κόσμου which has preserved the Heracleitean point of view, as it has preserved the exact words, while the reference in Philo has almost lost point, so much has the context been changed.

In this chapter the only departure from pure Heracleitanism which I can detect is in the direction of a theistic causation. In contrast we are fortunate in having another document still nearer Heracleitus, which describes the relation of parts and wholes as follows:

Cobblers cut wholes into parts and make the parts into wholes; by cutting and piercing they make unwholesome things healthy. And man undergoes the same process. Parts are divided out of wholes, and wholes are made by the combination of parts. But by being pierced and cut unhealthy parts are healed by physicians. And the healing art is as fol-

<sup>141</sup> Capelle's attempt to force such a view upon Poseidonius seems to me quite unsuccessful. He has not a syllable of material directly ascribed to Poseidonius with which to compare it.

<sup>142</sup> *Early Greek Philosophy* (3d ed.), p. 158.

<sup>143</sup> *Ibid.*, p. 143.

lows: to remove the painful, and to restore health by separating away the source of difficulty. Nature knows how to do this of her own accord: one who is seated has trouble in rising, and one who is moving has trouble in stopping.<sup>144</sup>

This application of the conception to medical science is certainly very close to Heracleitus' own point of view. For here the cutting is only half of a larger process, and is balanced by the rejoining of the separated parts. But in the process there is no room for theism: ή φύσις αὐτομάτη ταῦτα ἐπισταται. The double process is inherent in the monistic φύσις itself, looking nowhere for external causation.

But it is precisely such a causation which the Περὶ κόσμου has added to the original conception. Here the dividing and joining are specifically the work of the "all-pervading single divine power,"<sup>145</sup> which is clearly an extension or representation of the extracosmic deity into the universe, corresponding exactly to Philo's Logos, and which Philo in this section has himself called αἱ θεῖαι δύναμεις διὰ μέσων καὶ πραγμάτων καὶ σωμάτων ιοῦσαι (§312), but to which there is nothing analogous in Heracleitus. The author of the Περὶ κόσμου, indeed, goes on to explain this extracosmic deity in a way to show that he had the same theistic urge as Philo himself. God is compared, in his remoteness, to the Persian monarch, who by his delegates ruled a great empire, though himself unseen by that empire since he was buried in the fastness of his citadel. God needs no distinct messengers, since his own δύναμις acts for him, by which the author wishes to deny any personality to the δύναμις, and yet distinguish it from the essential nature of God (398 b, 10), exactly as Philo regarded the Logos. Like a leader of a chorus, says the Περὶ κόσμου, a general in war, etc., a single word from whom causes all to begin moving, God has but to give the impulse and all the motion of the world results. God's seat is not in the middle of the world but in heaven (οὐρανός) as the boundary (ὅρος) of the upper world.<sup>146</sup> He is immutable like the stars (400 a, 3 ff.), but is invisible, and so should not be confused with the visible stars. He is κυβερνήτης and ἡνίοχος in the universe, as well as its leader, law, and general, yet unlike them he is unmoved while he causes motion. After this section of mingled Aristotelianism and Platonism follows a Stoic section,

<sup>144</sup> Pseudo-Hippoer., *De Victimis*, 15 (Diels, *Fragm. Vorsok.*, I, p. 109).

<sup>145</sup> 398 b, 29: μία ἡ διὰ πάντων διήκουσα δύναμις. Cf. 398 b, 8.

<sup>146</sup> 400 a, 7. Cf. Philo, quoted above, p. 134, where God is the ὅρος of the οὐρανός, and ἡνίοχος and κυβερνήτης.

where God is identified with the various nature deities, with fate, necessity, etc. So, the document concludes, God rules all by divine law, accompanied by Δίκη, the divine avenger so familiar in Philo and the Stoics.

This document, with its striking similarities to *Quis Heres* and differences from it, and with its parallels, presents a very pretty problem in source analysis. Here is a treatise that has obviously tried to include conceptions, such as the Stoic fate, which Philo expressly repudiates. On the other hand it has repudiated any real creation, named five elements instead of four, though made all subcelestial phenomena out of the four, made the balance of Heraclitus to consist of a mixture of the elements held together, somehow, by the divine δύναμις, and eternal in its interplay of one into and against the other. In Philo the motif of Cutting is made much more important, though it is suggested in the Περὶ κόσμου. There is, according to Philo, a primary substance out of which the elements themselves have been separated, and once separated they are not, as in the Περὶ κόσμου, themselves the vowels and consonants making up the universe, but are all consonants while the Logos is the sonant uniting them. So the warfare of opposites is eternal and fundamental in Heraclitus and the Περὶ κόσμου, though caused by the Unmoved Mover in the latter. But Philo's divine agency is not the cause of war so much as of peace, since it is the business of the Logos to quiet the strife of opposites. In the *Opif. Mundi*, 33, Philo describes God at creation as separating and walling apart the opposites, darkness and light, since He well understood the contraries and their natural warfare. By so doing God made peace instead of war. That is, the separation done by the τομέας does not perpetuate warfare, but ends it; for πόλεμος is an aspect of chaos, εἰρήνη of the cosmos. This is quite unlike Heraclitus and the Περὶ κόσμου.<sup>147</sup> Also the creative activity of the Logos is described in a different way from that of the δύναμις in the Περὶ κόσμου. The Logos produced all things by successive divisions according to Philo, but in the Περὶ κόσμου the act of creation, if such for a moment it may be called, was essentially that of confining the four elements within the οὐρανός, where they had to strike a combination and balance, although this act would probably have been regarded by the author as a logical rather than a temporal one, since he denies beginning to the world as it is. Philo agreed that the world had no ending, but insisted

<sup>147</sup> In the *De Fug. et Invent.*, 196 Philo says of the wisdom of God, that is the Logos, that it is holy, and is that judgment (*κρίσις*) of all things ἡ πᾶσαι αἱ ἐναντιότητες διατεύγγυνται.

upon a definite beginning, in which he was probably influenced by Genesis. Also, it is notable that the Περὶ κόσμου has the Platonic, Philo a Pythagorean, arrangement of the planets. With all of these differences between the two authors goes a fundamental similarity in the conception of God and his rulership.

To account for these likenesses and divergencies I should like to suggest that there must have been a Heracleitean description of the harmony of opposites, the way up and the way down, which has appealed to many later philosophers as something which they wanted to harmonize with their own conceptions. Of this document, which is ultimately behind both Philo and the Περὶ κόσμου, we have only a general suggestion, along with a single quotation, preserved verbally in the Περὶ κόσμου and paraphrased by Philo. But I am convinced that we have no reason to suppose that the original was not in its general character quite similar to the only Heracleitean treatise we have, the *De Victu* attributed to Hippocrates. If we may judge from this treatise (and there seem no other grounds for judgment) a Heracleitean document would consist of a series of paradoxes, with no attempt at such schematization as the other philosophers were attempting. It would be hard to conceive the author of the *De Victu* as working out actual tables of opposites, for example, for all he seems interested in bringing out is the fact that Nature is eternally balanced in an interplay of opposite tendencies. The proportion by which all things are held together is a constant (*ἐνὶ δὲ λόγῳ πάντα διεκομήσατο κατὰ τρόπον αὐτὸν ἐωτῷ*, §10), while the terms of the proportion vary infinitely. So it is the proportion, and not any given set of terms, which interests him. And by the studied casualness and facetiousness of his illustrations he tries to keep his reader's attention likewise centered upon the universality of the one great ratio of nature. So he says that sawing a log is a matter of one man's pulling, another's pushing, to make a single process (§16). Πάντα γάρ δμοια ἀνδμοια ἔοντα, καὶ σύμφορα πάντα διάφορα ἔοντα, διαλεγόμενα οὐ διαλεγόμενα, γνώμην ἔχοντα δγνώμονα, ὑπεναντίος δ τρόπος ἐκάστων δμολογέσμενος (§11). The shoemaker makes a whole shoe by cutting leather into pieces (§15). The greatest advantage comes out of the greatest divergencies; and pleasure would be impossible without contrasts (§18). So φύσις, itself a monad, is always to be thought of as an interaction of opposite tendencies inherent in its own constitution. Heracleitus seems to have got his name for being obscure precisely because he left his idea thus in the form of paradoxical suggestions, without systematic elaboration. Also, when the *De Victu* mentions the gods,

they appear purely formal. True, they can make real *vōuoc*, which we cannot do, but they do so only because as superior intelligences they know φύσις and legislate accordingly; but they are in no sense causes of the peculiarities of φύσις (§11).

It must have been a very similar Heracleitean document which, under the influence of Aristotelianism, with some traces of Platonism, was worked over into a new form, with its essential change the introduction of a mystical theism, in which God was conceived as in dualistic opposition to matter, and as being the unmoved Mover causing all this system of opposition and harmony by the activity of his δύναμις. At the first stroke, then, the essential point of view of Heracleitus, his monism, was lost. The author of the Περὶ κόσμου may have had the document in this stage, and himself have rewritten it to bring in more Platonic and many Stoic notions, or there may have been other intermediate stages. But it would seem that before any important changes had been made the Aristotelian version came also into the hands of Neo-Pythagoreans, who worked it over again to introduce fixed systems of opposites, and, while keeping the term δύναμις, for the most part described the divine causing force as the Logos, acting as the creative Cutter and Joiner. Stoic terms may have appeared occasionally in this version, as they do in Philo, but no essential Stoic conceptions. In such a form, with the title probably Περὶ τῆς εἰς Ἰσα καὶ ἐναντία τοῦτης, the document would seem to have come to Philo, still bearing a trace of its origin in the quotation from Heracleitus. It is impossible to know whether it was Philo or his source who paraphrased the quotation instead of giving Heraclitus' original words, though I suspect that the paraphrase is Philo's as part of his "abridgment." Philo's version, while interesting as part of his own writing, is also important for revealing to us the teachings of Pythagoreans hitherto unknown to us as such, as well as showing the process by which Hellenistic philosophers constructed their treatises. Philo has simply gone one step further and rewritten the document again to make it this time conform to the distinctive principle of Hellenistic Judaism, loyalty to the Torah.

By way of postscript there is still something to be said as to the history of the notion of divisions εἰς ἀτομά. The method of logical divisions from the general to the specific by which the particular got its orientation and correct definition is familiar in both Plato and Aristotle,<sup>148</sup> and Neo-Pythagoreans may well have had it

<sup>148</sup> Julius Stenzel has gone into the subject in several treatises: *Studien sur Entwicklung der platonischen Dialektik*, 1917; "Platon und

from them. But even in Plato, as Stenzel points out, there is always an undercurrent of the Pythagorean notion of the application of the monad to the dyad, which was with the early Pythagoreans an explanation of creation quite as much as a logical method. One passage gives a hint that creation by division was known to Plato, and already connected with the Heracleitean tradition which appears in the Pseudo-Hippocratean *De Victu*. In the *Symposium*, 189 d ff., Aristophanes is made to give a burlesque account of the nature of love by describing it as the attempt of two separated halves, of the same or opposite sex, to reunite. He describes man as originally made up of two parts in a single φύσις which Zeus separated by cleaving the monstrosity down the middle, δίχα ἔτεμνε. He is obviously referring to some theory of creation by bisection in which one of the bisections produced male and female, though, probably as part of his burlesque, in some cases he represents both parts as being of the same sex to account for homosexuality. Commentators have been at a loss to know what Aristophanes could have been referring to, since it is the universal impression that Plato must have described him as parodying some familiar theory after the comedian's usual manner. The notion of creation we have been describing fits what Aristophanes says so much better than any of the suggestions of the latest commentator<sup>149</sup> that I am inclined to think that the theory had been taught by some philosophers, probably Pythagoreans, already by Plato's day. Incidentally Philo knew such a theory of love, for his only reference to dichotomy in his treatise *De Opificio Mundi* is the following: "Love arises, and bringing together what are in a sense the separated parts of a single living creature which has been cut in half, it fits them into one."<sup>150</sup> Philo in this could not possibly have had the burlesque account of the *Symposium* in mind. Philo's remark about love, indeed, may well reflect a part of the treatise on creation by bisection

Demokritus," in *Neue Jahrbücher für das klassische Altertum*, XLV (1920), pp. 89–100; *Zahl und Gestalt bei Platon und Aristoteles* (1924). The most important passages in Plato are *Phaedrus*, 277 b, *Sophistes*, *passim*, and the first part of the *Politicus*. Aristotle, with some distinct modifications, uses the method; see especially *Anal. Post.*, 96 b, 15 ff.; *Topic.*, 109 b, 13 ff., and Zeller, *Philosophie der Griechen*, II (4th ed.), ii, 253 ff.

<sup>149</sup> A. E. Taylor, *Commentary on Plato's Timaeus*, pp. 652 ff.

<sup>150</sup> §152: ἔρως δ' ἐπιγενόμενος καθάπερ ἐνδε λέγου διττὰ τμήματα διεστηκότα συναγαγών εἰς ταύτον ἀρμόττεται. There would seem to have been no room in a document like this, which is following the Mosaic order of creation, to introduce any more of the notion of creation by dichotomy.

which has passed over into *Quis Heres*. Further I cannot feel that it is at all a matter of chance that the speech of Eryximachus immediately preceding Aristophanes' speech has been found by Taylor<sup>151</sup> to be full of parallels to the *De Victu*. It looks as though there had already been an association of that treatise, or its Heraclitean original, with some Pythagorean notion of creation by διχοτομία which Plato knew and drew upon for the *Symposium*.

Stein<sup>152</sup> has just suggested that Philo may have derived his notion of the original androgynous form of man from a tradition recorded in the Midrash: "At the time when God first created man, he created him male-female." According to another Midrashic statement man was first created with two faces. Stein is aware of the similarity of both passages with the account of Aristophanes in the *Symposium*, but speaks of a parallel and independent Jewish tradition. He refers for further details to Michael Sachs, but while he refers as a parallel to the *Symposium*, he does not indicate that Sachs' own opinion was that the Midrashic statements, so strange in the general Jewish context, must have been taken directly from the *Symposium* itself.<sup>153</sup> This it is most difficult to believe. But it is not at all difficult to think that the Greek theory of creation by dichotomy, particularly as applied to the origin of man, was so familiar as to reach some early rabbis, if only in a popular form, and to have been seized as a convenient reconciliation of the creation stories of Genesis 1 and 2. Rabbinical scholars may be left to settle that point. The matter of concern here is that there is no evidence of an indigenously Jewish belief in man as originally a hermaphrodite, while if my reasoning has proved convincing, the notion has an honorable place in an elaborate and ancient theory of creation among the Greeks. On the basis of the Greek tradition Philo's source seems adequately accounted for without assuming a parallel Jewish theory. That Philo is himself reflecting what Jews might call a thoroughly Hellenized Midrashic tradition of the Diaspora is, on the other hand, highly probable. In this point, and even more as a totality, he seems quite unintelligible without such a tradition behind him.

<sup>151</sup> *Op. cit.*, pp. 650 ff.

<sup>152</sup> Edmund Stein, *Philo und der Midrasch (Beihefte zur Zeitschrift für die alttestamentliche Wissenschaft* 57), 1931, pp. 1 f.

<sup>153</sup> Sachs, *Beiträge zur Sprach- und Alterthumsforschung* (1852), pp. 56 f. G. F. Moore, *Judaism*, I, 453, and III, 137, implies also that he considers the *Symposium* to be the direct source here of the Midrash.

As a final consideration it is interesting to note that Plato throws some light upon the problem whether logical classification by dichotomy came from a Pythagorean notion of creation by dichotomy or the theory of creation was an inference from the logical method. In view of the available evidence I have already suggested that the theory of creation, at least as far as Philo's *λόγος τομεύς* is concerned, was an extension of the logic. But while Philo's use of this term would seem to have been a projection into the cosmos of a logical technicality, the general conception into which it was fitted may well have been older than any particular words used to describe that conception. For if a theory of creation by dichotomy and a dichotomous method of logical analysis were both old by Philo's time and had long existed side by side, the elaboration of each would naturally affect the other. So if the *λόγος τομεύς* of Philo is a projection of a Hellenistic logical term into cosmic speculation, one must not immediately conclude that the entire notion of creation by dichotomy was a similar enlargement of the terminology of logic. For not only does Plato give us a hint in the speech of Aristophanes that there existed an old theory of creation by dichotomy; in another passage he definitely suggests that the logical dichotomy was only trying to retrace the actual process of creation.

The suggestion appears in the *Philebus*<sup>154</sup> where Plato is discussing the problem of the One and the Many in the sense of how a group of many individuals may be considered as a single genus. The solution lies, he says, in a theory that has come down from a philosophical Prometheus as a bit of divine lore. That Pythagoras is referred to is generally recognized from the fact that this divine teaching is the notion that all things are made by a combination of *πέρας* and *ἀπειρία*.<sup>155</sup> Accordingly the correct way to come to understand a great number of phenomena is to discover a single conception (*ἰδέα*) which comprehends them all, and when it has been found to see two, three, or whatever number of divisions it may fall into, and then to divide each in turn until no further divisions are possible. One has not adequately completed an investigation of this type, Plato says, until not only the single all-inclusive *ἰδέα* has been found, but also each step in the subdivisions. And one cannot say that there is an "indefinite number" of a given kind of phenomena until one has made sure that the phenomena he is describing are not subject to further classi-

<sup>154</sup> 16 c-17 a.

<sup>155</sup> See for example Taylor, *Plato: the Man and his Work* (1929), p. 412.

fications. To omit the intermediate steps is to rob any discussion of its true dialectic character. The logical method to which Plato is referring is obviously his favorite one in that later period of his life, the method of dichotomy. And he definitely states that the justification of such a methodology is the fact that all things arose from, and are naturally constituted out of, πέρας and ἀπειρόν.<sup>156</sup> Plato himself thought that the method of analysis by division was justified by the fact that it naturally retraced the original process by which phenomena were created, the process which he had learned from Pythagoras, and Pythagoras from the gods. That is, the connection in Plato's mind between creation and analysis by dichotomy is unmistakable, as well as the fact that to him the theory of creation was at least logically anterior to the process of dialectic.

<sup>156</sup> Εξ ἐνὸς μὲν καὶ πολλῶν δυτῶν τῶν δὲ λεγομένων εἶναι, πέρας δὲ καὶ ἀπειρόν ἐν αὐτοῖς σύμφυτον ἔχόντων.

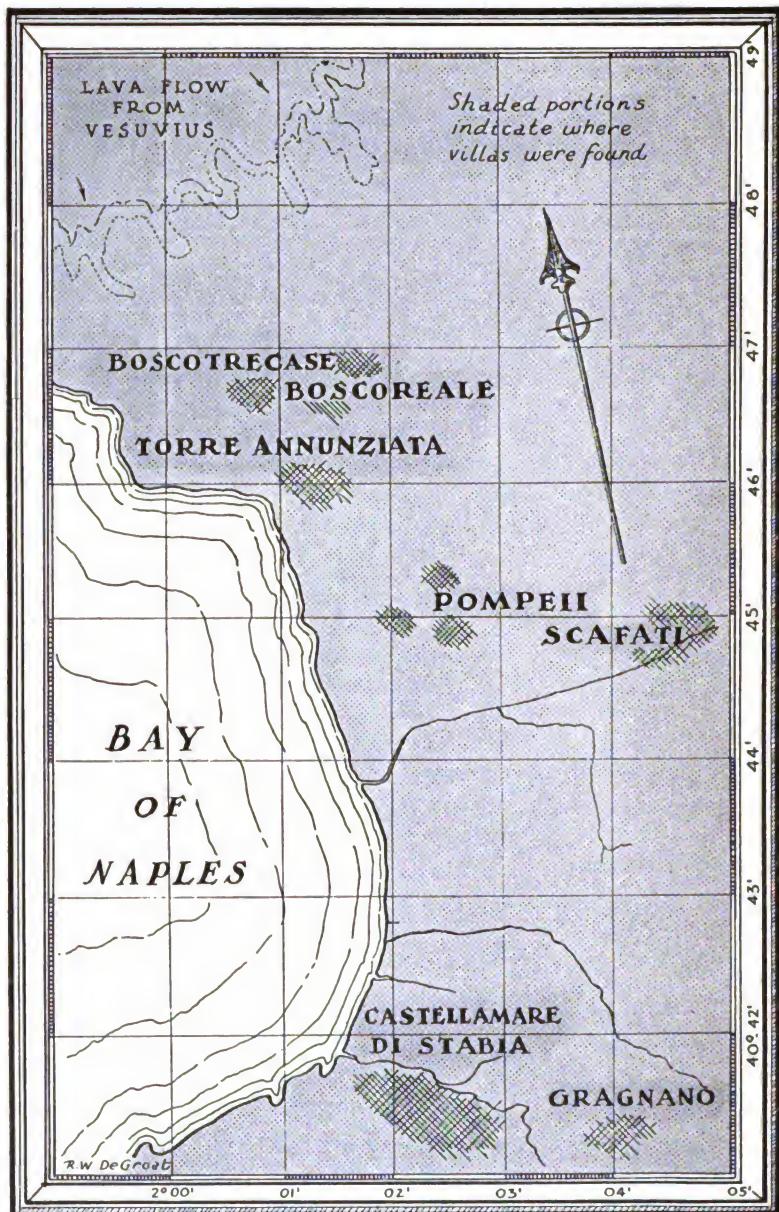
AGRICULTURE IN THE LIFE OF  
POMPEII



BY JOHN DAY







## AGRICULTURE IN THE LIFE OF POMPEII

THE ruins of Pompeii, revealed to us by many years of excavation, afford a view of a small Italian city of classical times. The existence of remains on such a grand scale serves to make this city of the greatest importance. The remains have been studied in great detail from the archaeological point of view and the results have been duly published. From the social and economic point of view only a beginning has been made. Professor Tenney Frank has published a study of the industry of Pompeii, which, although fundamental, is a general survey. In the same study he has discussed commerce and the trades, and has given an economic analysis of the famous villa near Boscoreale as the basis for a few comments on the agriculture of Pompeii. Professor M. Rostovtzeff, in his *Social and Economic History of the Roman Empire*, while adding to Frank's discussion of industry, commerce, and the trades, has contributed much to the discussion of agriculture, laying the basis on which thorough investigation of the subject must proceed.<sup>1</sup> To pursue this investigation, as far as it is possible to do so without prolonged study at Pompeii, is the aim of this paper.

There is a rather large amount of material accessible to the in-

<sup>1</sup> Frank, *Class. Phil.*, XIII (1918), pp. 225 ff.; *id.*, *History of Rome*, pp. 375 ff.; *id.*, *Economic History of Rome*, 2d ed., chaps. xiii and xiv. For the Boscoreale villa, *id.*, *Economic History*, pp. 265 ff. Rostovtzeff, *Social and Economic History of the Roman Empire*, pp. 496–497, 503–504; and *passim*, for agriculture; p. 513, note 19 and Index for industry. My indebtedness to Professor Rostovtzeff's works will be apparent throughout. I wish to record here my appreciation of the aid which he has so generously offered and given on numerous occasions during the preparation of this paper. Professor G. L. Hendrickson has very kindly read the manuscript and offered suggestions. I am also indebted to M. Della Corte, who has graciously answered my requests for information, and to Mr. G. K. Boyce for undertaking several burdensome commissions during his residence at Pompeii in the summer of 1930. The recent discoveries at the Villa Item had not yet been published when this article was submitted, and it was in proof when R. C. Carrington's study of the Campanian *villae rusticae* appeared (*Journ. Rom. Stud.*, XXI [1931], 110–130). That study and mine were written from different points of view, and in the few cases where they converge I do not feel impelled to change my position.

vestigator of the rôle played by agriculture in Pompeii and the surrounding territory. The information derived from ancient authors is, however, inconsiderable. Varro, Cato, Columella, and Pliny, while affording much light on ancient agriculture, offer only incidental notes on the products and general methods of agriculture at Pompeii. But this information, though slight, when correlated with the comparatively abundant archaeological material unearthed in Pompeii and the immediate environs, suffices to give us a rather clear-cut picture of agriculture in the life of this city. The remains of the *villae rusticae* represent perhaps the most important division of the archaeological material.<sup>2</sup> Many of these were reinterred following excavation, but a few of the more important ones may still be inspected. Next in importance come the inscriptions on amphorae which are of especial importance for the investigation of the wine trade.<sup>3</sup> Finally, a few reliefs and paintings possess illustrative value and afford positive evidence for certain features of the agricultural life of this district.

The district with which this paper deals is roughly that part of the Campanian plain which lies south of Vesuvius. *Villae rusticae* have been found on the slopes of Vesuvius in the north, near Gragnano and Castellamare di Stabia in the south, and around Scafati in the east. Consequently, the district thus bounded will be especially considered in the discussion of agriculture at Pompeii.

The soil of Campania was extraordinarily fertile and noted for its productivity. It was formed beneath the sea by volcanic activity and then raised.<sup>4</sup> Strabo indicated the probability that the eruptions of Vesuvius were responsible for the fertility of the surrounding country, citing as a parallel Catana where the volcanic ash from Aetna provided a soil splendidly adapted to the growth of the vine.<sup>5</sup> The land about Vesuvius, he writes, contains an element which enriches and is a soil which has been subjected to fire; it is, therefore, a very strong and productive earth, especially as regards fruits.<sup>6</sup> He portrays Mount Vesuvius as covered,

<sup>2</sup> See Table C.

<sup>3</sup> These inscriptions are published in *CIL*, IV. For a discussion of the inscriptions on amphorae containing wine see P. Remark, *De amphorarum inscriptionibus Latinis quaestiones selectae* (Diss. Bonn, 1912), pp. 11-25 and 32-36.

<sup>4</sup> Pauly-Wissowa-Kroll, *R.-E.*, III, 1435.

<sup>5</sup> Strabo, V, 4, 8; Pliny, *N.H.*, XIV, 10, 34; 35; 69; 136; XVII, 25; XXIII, 45; Athenaeus, I, 26, 27.

<sup>6</sup> Strabo, *loc. cit.*

except for the summit, with beautiful fields, and from various other writers we hear of the wines and other products of Campania, Vesuvius and the plain south of it sharing in the praise.<sup>7</sup> Certain paintings, found in Pompeii, reflect the fertility of this district. A painting in the "House of the Centenary" portrays Mount Vesuvius and Bacchus covered with large clusters of grapes.<sup>8</sup> In the market room of the Macellum there was a painting representing certain local divinities. They were personifications of the surrounding country and sea, and seem to reflect the sources of the prosperity of the city.<sup>9</sup> While writing about the plains of Campania in general, Strabo records the report that some of the plains were cropped the year round, twice with rye, then with panic, and sometimes a fourth time, with vegetables.<sup>10</sup>

We have a fairly complete knowledge of the wines produced on the plain south of Vesuvius. One wine, which was ranked as the best obtainable, was the Aminean.<sup>11</sup> There were five varieties of it, one of which, the "smaller gemella," was grown on Mount Vesuvius and on the Surrentine hills, among other places.<sup>12</sup> The region of Vesuvius, incidentally, gave its name to one type of wine which was grown there, the *Vesuvinum* or *Lympa Vesuviana*.<sup>13</sup> Likewise, Pompeii gave its name to the *Murgentina*. This was one of the best vines imported from Sicily and, after being adopted at Pompeii, it was given the name *Pompeianum*.<sup>14</sup> It is interesting to note that the famous "lacrimae Christi" is grown on Vesuvius at the present time. In fact this entire section of Campania is, to the present day, very productive of wine. At the time which concerns us, the wines were subjected to various treatments and the resultant products are known from the inscriptions on amphorae found in Pompeii and the vicinity.<sup>15</sup>

<sup>7</sup> *Ibid.*

<sup>8</sup> *Notizie degli Scavi*, 1880, pp. 232 ff., pl. VII.

<sup>9</sup> Mau-Kelsey, *Pompeii*, p. 97. <sup>10</sup> Strabo, V, 4, 3.

<sup>11</sup> Cato, *De Agr.*, VI, 4; VII, 1; CVI, 2. Varro I, 25; VI, 4. Vergil, *Georgics*, II, 97. Columella, *R.R.*, II, 2, 7. Pliny, *N.H.*, XIV, 21, 22. Cf. Remark, *op. cit.*, p. 12, note 4.

<sup>12</sup> Pliny, *N.H.*, XIV, 21-22; Columella, III, 2, 7; cf. *CIL*, IV, 2676.

<sup>13</sup> *Vesuvinum*, *CIL*, VIII, 22640, 31. *Lympa Vesuviana*, *CIL*, IV, 5622.

<sup>14</sup> Pliny, *N.H.*, XIV, 3; cf. *CIL*, IV, 5559.

<sup>15</sup> Remark, *op. cit.*, has explained most of the terms applied to wine at Pompeii. The numbers following the names below refer to the inscriptions in *CIL*, IV. The page numbers refer to Remark. *Lympa* (*Lumpa* or *Limpa*), 5605-5628; *Not. d. Sc.*, 1927, p. 91. *Confusum*, 5584; Remark, p. 24. *Mulsum*, 5592; Remark, *loc. cit.* *Gustaticum*,

Very tangible information concerning the methods and the scale of production of wine and oil in precisely this region in ancient times is furnished by the archaeological exploration noted above. I refer specifically to the many *villae rusticae* found in the vicinity of Pompeii and Stabiae. In more than two-thirds of them, precisely thirty-one, were found provisions for the production either of wine or olive oil, or both. Oil was produced surely in seven villas, probably in ten. It was probably made to the exclusion of wine in three cases. On the other hand, wine was certainly produced in twenty-six villas, probably in twenty-nine, and seems to have been produced to the exclusion of oil in numerous cases.<sup>16</sup> We have as yet no indication of the production of oil in the region of Scafati. The production of this commodity seems to have been favored in the region of Gragnano more than in any other part of the district which falls within the limits of this paper.

For the present it will be instructive to consider closely the most famous one of these villas, the villa in the Contrada Pisannella near Boscoreale, where the famous Boscoreale treasure was found. This villa, which is the best preserved of those in the vicinity of Pompeii, presents in fully developed form the arrangements for the manufacture of wine and oil. The villa was rectangular in plan, with dimensions of approximately 83 by 130 feet. On the second floor were sleeping rooms. On the ground floor there were several rooms consisting of a kitchen, bakery, bath, dining-room, smaller rooms for slaves, the implement room, a large court for the carts and animals, a stable, rooms for pressing olives and grapes, and a large storage room, the *cella vinaria*, where the wine matured. In most respects the appointments of the villa meet the specifications of ancient writers who discussed

5589; Remark, p. 24. *Mirris*, 5743; Remark, *loc. cit.* *Aroma(titen)*, 5583; Remark, *loc. cit.*, Pliny, *N.H.*, XIV, 107–112. *Passum*, 5594, 5595; Remark, p. 25; see Martial, XIII, 106 and Galen, XIII, 8, 212. *Rubrum*, 5595–5600; cf. *Not. d. Sc.*, 1927, p. 81. *Defrutum* or *defritum*, boiled down must, 5585, 5586; Remark, p. 25. Often used in place of honey. See Blümner, *Röm. Privataltert.*, p. 202; Pliny, *N.H.*, XIV, 80. Also used to make wine stronger. See Cato, *R.R.*, XXIV; Columella, II, 22, 4; XII, 37; Pliny, *N.H.*, XIV, 121. *Mel thyminum* (*mel thymosum*, Pliny, *N.H.*, XI, 34, 38, 39; cf. XIV, 26–27), 5741. *Mella odorata*, 5742; Remark, p. 30. *Faecula Aminea*, 5730; Remark, p. 13. It was a medicament. For the treatment of wines see also Marquardt and Mommsen, *Handbuch der Römischen Alterthümer*, VII<sup>2</sup>, pp. 442–444.

<sup>16</sup> Wine was produced in the villas numbered (in Table C), 1(?), 2(?), 3, 7, 8, 9(?), 10, 13–16, 19, 20, 23, 25–35, 39–42. Oil was produced in Nos. 1(?), 2, 3, 5, 6, 9(?), 13, 16, 20, 25(?).

the problem of building a large farmhouse.<sup>17</sup> In a later section, when I propose to discuss the wealth and importance of the villa owners, I shall return to a consideration of some of the purely domestic appointments. Let us now observe the provisions for the production of wine and oil in this villa.

The vine, as we know from modern methods of cultivation, requires much care.<sup>18</sup> That the ancients were acquainted with much the same practices as are in vogue today is evident from a reading of the ancient writers on agriculture. The following items will give an indication of the immense amount of labor involved in the cultivation of the vine. Columella advised his readers that the oftener the earth around the vine was turned up with the hoe the better the vines would fare. He advocated that this be done once a month.<sup>19</sup> Quicksets must be planted to replace dead vines<sup>20</sup> and the vines must be pruned.<sup>21</sup> Then, after October 1, and before cold weather, the roots should be laid bare and the small roots cut off.<sup>22</sup> If the winter should be mild they might be left exposed until the middle of December.<sup>23</sup> If one anticipated very cold weather, one should cover the roots with manure before replacing the earth.<sup>24</sup> These were only a few of the numerous duties. The implements for the care just described have been found in almost all of the villas excavated. Those from the Boscoreale villa are perhaps the best preserved.<sup>25</sup> Such cultivation, of course, required many laborers, and we find rooms and *ergastula* for these laborers in most of the villas excavated.

After gathering the grapes comes the task of pressing, and in the villa we are now considering we find a large *torcularium*,

<sup>17</sup> A. Pasqui, "La Villa Pompeiana della Pisanello presso Boscoreale," *Monumenti Antichi*, VII (1897), coll. 397-554 and the references to Columella, Varro, Cato, and Pliny. For the type see *Jahrb.*, 1904, p. 124, note 50.

<sup>18</sup> Liberty Hyde Bailey, *Standard Cyclopedia of Horticulture*, V (1915), pp. 1378 ff. See Marquardt and Mommsen, *op. cit.*, VII<sup>2</sup>, pp. 427-429.

<sup>19</sup> Columella, IV, 5.

<sup>20</sup> *Id.* IV, 15; cf. III, 15.

<sup>21</sup> *Id.* IV, 9-11, 21, 23.

<sup>22</sup> *Id.* IV, 8.

<sup>23</sup> *Ibid.*

<sup>24</sup> *Ibid.*

<sup>25</sup> Rostovtzeff, *Social and Economic History*, p. 64, Plate X; H. F. De Cou, *Antiquities from Boscoreale in Field Museum of Natural History* (1912), plates CLXIII-CLXVI. For implements necessary for cultivating a vineyard of 100 iugera see Cato, XI. See also Billiard, *La Vigne dans L'Antiquité*, Lyon, (1913), pp. 318-354 and figs. 110-118. For the implement dealer in Pompeii (at I, 6, 12), see *Not. d. Scavi*, 1912, pp. 336, 354-355.

corresponding in dimensions with the one prescribed by Vitruvius, with three presses. The presses, when restored, conform to the specifications given by Cato.<sup>26</sup> Once the grapes were pressed the juice flowed through a temporary channel to the *cella vinaria* which was on the opposite side of the corridor. The temporary channel formed a connection with a permanent channel which ran along one wall of the *cella vinaria*. From this channel the must was distributed to the various dolia by means of long troughs.<sup>27</sup> The dolia were arranged in orderly fashion and buried in the earth that they might be kept at an even temperature. The wines in this case must have been weak and thin ones, for Pliny informs us that such wines should be kept in dolia sunk in the ground, whereas stronger ones should be kept in dolia which were more exposed to the air.<sup>28</sup> The *cella vinaria*, in accordance with the prevailing practice in Campania, was open to the sky and exposed to the winds by means of large slits in the eastern side wall.<sup>29</sup> A small roof protected the permanent channel for conducting the must to the dolia. In one corner was a metal kettle, which was evidently used for boiling must, which was used as a preservative for the wines.<sup>30</sup>

For the making of oil we find much the same provisions.<sup>31</sup> The olive crusher, which prepared the olives for the press, was so contrived that the stones of the olive were not crushed. The same type of crusher has been found in various Mediterranean countries.<sup>32</sup> The olive press was similar to the wine press, but smaller. The *torcularium* was placed in a warm quarter of the villa and had few windows, following the instructions of Columella and Cato.<sup>33</sup> Much of the oil was stored in dolia placed in the corridor along the outer side of the wall of the wine cellar. Some of it was probably stored within the cellar.

There is every reason to believe that the owners of these villas did not confine their energies to the production of oil and wine. On the other hand, it would be quite far from the truth to suggest that each of the estates was a self-sufficing unit. Wine and oil

<sup>26</sup> Cato, *De Agr.*, XVIII, 2-3. See Schneider, *Rei Rusticae Scriptores*, I, pp. 542 ff., pl. V.

<sup>27</sup> Palladius, I, 18.

<sup>28</sup> Pliny, *N.H.*, XV, 136. Pasqui, *op. cit.*, col. 483.

<sup>29</sup> Pasqui, *loc. cit.*; Pliny, *loc. cit.*; Vitruvius VI, 9.

<sup>30</sup> Pliny, XIV, 137.

<sup>31</sup> Pasqui, *op. cit.*, coll. 500 ff.  
<sup>32</sup> Am. *Journ. Arch.*, IV (1888), p. 453; Blümner, *Technol. und Termin.*, I<sup>2</sup> (1912), pp. 337-343, 351.

<sup>33</sup> Cato, *De Agr.*, LXV; Columella, I, 6; Pliny, *N.H.*, XV, 11.

were certainly the fundamental products, but diversification was evidently practiced. Indeed the estate which Columella described as ideal has parts allotted to the raising of corn, to a copse for raising props for the vines, to pasture as well as to the vineyards and olive groves, which are evidently the most important units.<sup>34</sup> The villas near Pompeii are not far removed in character from this ideal villa. The famous villa at Boscoreale was outfitted with a threshing floor.<sup>35</sup> Another villa, also near Boscoreale, owned a threshing floor. One of the rooms of the villa served as a granary. A graffito, found in the same villa, records amounts of barley and beans, which were evidently stored there.<sup>36</sup> It is also not unusual for one to find the implements necessary for the cultivation of grain. See, for example, the sickles found in the famous villa at Boscoreale and in two other rather wealthy villas.<sup>37</sup> In numerous villas remains of straw have been found. Perhaps more convincing still would be the amphorae found in and near Pompeii which bear the inscription *mola* and *far*.<sup>38</sup> In addition, the raising of corn in the fertile Campanian plain is not unattested by ancient writers. Strabo, discussing the Campanian plain as a whole, wrote that it produced the finest corn.<sup>39</sup> Varro, also, praises the grain raised in Campania.<sup>40</sup> I do not maintain that the villas produced grain on a large scale, but the evidence is indisputable that they raised a moderate amount of it.

We also have evidence that the owners of the villas diversified their products in still other ways. First, we find that they busied themselves with the raising of live stock, probably sheep to a greater extent than other animals. Columella advocated keeping stock for the sake of the manure, and on a vine estate, where much manure was needed, this advice would almost certainly have been followed.<sup>41</sup> Many of the villas possessed stables and large courtyards where animals were kept.<sup>42</sup> This alone could not be considered evidence for asserting that the villa owners under-

<sup>34</sup> Columella, I, 2.

<sup>35</sup> Pasqui, *op. cit.*, coll. 504 ff.

<sup>36</sup> Villa No. 14. See Table C. The graffito: *Hordeum CCXLXXVI Faba M DLXXXVII*

cf. *CIL*, IV, 5430.

<sup>37</sup> Note 25 and *Not. d. Sc.*, 1922, p. 477; 1929, pp. 178 ff.

<sup>38</sup> *Mola*, *CIL*, IV, 2604–2608, 5745–5760. *Far*, *CIL*, IV, 2567.

<sup>39</sup> Strabo, V, 4, 3.

<sup>40</sup> Varro, I, 6.

<sup>41</sup> See the graffito mentioning a second consignment (?) of ewe lambs, *CIL*, IV, 5450. For notation of so many pounds of wool in the graffiti, *CIL*, IV, 5363, 6714. Columella, II, 15 and VI, pref.

<sup>42</sup> For the courts see Table A. For stables see villas 13 and 34.

took to raise stock, for the animals necessary for the exploitation of the wine and oil would require somewhat of room within the walls.<sup>43</sup> But, in some villas there has been preserved definite evidence that flocks were kept within the walls along with their guardians, the dogs.<sup>44</sup> The most striking instance of this is to be found in a villa in the vicinity of Gragnano, where one corner of the villa was separated from the large central court by a low parapet.<sup>45</sup> In this same villa it is interesting to note that arrangement was made for keeping chickens, a watering trough being specifically provided for them. The finding of the skeletons of chickens in various villas in this region was not unusual. So we may believe that the sheep and fowl sold in the Macellum at Pompeii were provided by the surrounding farms.<sup>46</sup> In villa No. 28 there is an interesting sidelight on chicken raising. Some individual scratched on the wall of the wine shop which the villa owned the date when he had placed eggs under a setting hen.<sup>47</sup> In addition to sheep and chickens, there is reason to believe that swine were also kept. In the best-preserved villa at Boscoreale skeletons of pigs were found.<sup>48</sup> See also the inscription on an amphora from Pompeii designating the contents as chick-peas with lard.<sup>49</sup> Cows, too, were kept. They were found in the *stabulum* of a villa near Gragnano, in which there were found the remains of a room outfitted to serve as a cheese factory.<sup>50</sup> A reflection of this activity is found in the graffiti at Pompeii where in one instance there is a record of the sale or purchase of six heifers, and in several graffiti the notation of the sale or purchase of cheese.<sup>51</sup>

Cato, in his treatise on agriculture, advises planting a garden near the house so that one can have garlands, flowers, and vegetables of all kinds.<sup>52</sup> In three of the villas we actually find provisions for gardens. Flowers for garlands and perfumes and per-

<sup>43</sup> For the animals necessary for a wine growing estate of 100 iugera see Cato, *op. cit.*, XI; cf. Varro, *R.R.*, I, 19. For goats in the work of the Pompeian farmer see the paintings in the House of the Vettii. The skeleton of a goat was found in villa No. 43.

<sup>44</sup> *Not. d. Sc.*, 1921, pp. 423 ff. <sup>45</sup> Villa No. 10.

<sup>46</sup> See the poultry represented in the painting of the Macellum. See Mau-Kelsey, *Pompeii*, Ch. XII and *Rivista Indo-Greca-Italica*, V, pp. 96-97.

<sup>47</sup> *CIL*, IV, 6873.

<sup>48</sup> Pasqui, *op. cit.*, col. 399.

<sup>49</sup> *CIL*, IV, 5184.

<sup>50</sup> *Not. d. Sc.*, 1923, pp. 275 ff.

<sup>51</sup> For the heifers see *CIL*, IV, 5184; for cheese, 4422, 5380.

<sup>52</sup> Cato, II, 8.

haps even vegetables were grown in them.<sup>58</sup> The well-known frescoes in the House of the Vettii show us that there was a market for flowers, garlands, and perfumes at Pompeii.<sup>54</sup> There is a painting, too, in the Macellum which portrays Cupids plaiting and selling wreaths.<sup>55</sup> As for the vegetables, the cabbage of Pompeii was renowned and the onions were singled out for mention by ancient writers.<sup>56</sup> In Pompeii there are many graffiti which record the purchase or sale of these vegetables.<sup>57</sup> Beets and beans are also frequently mentioned in the graffiti.<sup>58</sup> *Lomentum*, which was made from beans, and, as stated above, chick-peas with lard are known to have been stored in amphorae and distributed at Pompeii.<sup>59</sup> Thus, it seems certain that the villas raised some vegetables. I do not believe, however, that this part of their activity was very extensive. It is much more likely that the greater part of the vegetables raised at Pompeii came from small truck-garden plots. Upon coming to a consideration of fruits, the frequency of the term *pomari* in the election posters leads one to suspect that fruit was grown in the surrounding country, probably in the villas.<sup>60</sup> This supposition is substantiated by the fact that *pomaria* or *oporothecae* have been found in several villas.<sup>61</sup> In the villa at Domicella there was a trench which was used for drying fruits.<sup>62</sup> One Pompeian fruit was praised by the ancient writers, namely the fig.<sup>63</sup> An inscribed amphora which contained cherries has been

<sup>58</sup> See for example villas No. 29 and No. 41.

<sup>54</sup> See the paintings reproduced on Plate XIII, p. 92 in Rostovtzeff, *op. cit.*; also Hermann-Bruckmann, *Denkmäler der Malerei des Altertums*, pl. 21. For *thurari* and *unguentari* in Campania see *CIL*, X, 892, 2935, 3966, 3974, 3975, 3979, 3982, 6802, 8264; Pliny, *N.H.*, XVIII, 111; XXI, 16.

<sup>55</sup> See Mau-Kelsey, *Pompeii*, p. 97.

<sup>56</sup> Cabbage, Pliny, *N.H.*, XIX, 140; Columella, X, 135. Onions, Columella, XII, 10. Figs, Macrobius, *Saturnalia*, III, 20, 1; Pliny, *N.H.*, XV, 70.

<sup>57</sup> Cabbage, *CIL*, IV, 4533, 4888, 4889. Onions, *CIL*, IV, 4422, 5380. Two types of onions in 5380. Figs, on amphora, *CIL*, IV, 5732.

<sup>58</sup> Beets, *CIL*, IV, 4533, 4888, 4889. Beans, *CIL*, IV, 5430, 6722. For lupines see *CIL*, IV, 3423 (*lupinarius*) and 3843 (*lupinopolus*).

<sup>59</sup> *Lomentum*, *CIL*, IV, 2597; cf. 5738. See Pliny, *N.H.*, XVIII, 117; Palladius, XI, 14, 9; Apicius, I, 6. Chick-peas with lard, *CIL*, IV, 5729.

<sup>60</sup> *CIL*, IV, 149, 180, 183, 202, 206.

<sup>61</sup> See villa No. 5; pl. XII, Ruggiero, *Degli Scavi di Stabia*; villa No. 10, Pl. XVII, in Ruggiero, *op. cit.*

<sup>62</sup> *Not. d. Sc.*, 1929, p. 202.

<sup>63</sup> Fronto, *Ad M. Caes.*, II, 5; Macrobius, *Saturnalia*, III, 20, 1;

found at Pompeii.<sup>64</sup> Many fruits and vegetables were portrayed in the so-called still-life paintings, which were found in and near the city. The following fruits appear in these paintings: (1) fig (most frequently of all), (2) peach (least of all), (3) apple, (4) pear, (5) plum, (6) cherry, (7) pomegranate, and (8) date.<sup>65</sup> Of the vegetables, asparagus, onions, and radishes are portrayed; possibly also the cucumber. Mushrooms and almonds are also represented.<sup>66</sup> The fact that pomegranates and dates, which must have been imported, are frequently to be seen and that unnatural colors are used in some cases leads one to the conclusion that the representations are conventional and not to be considered as evidence that certain types of fruits and vegetables were grown at Pompeii.<sup>67</sup> We know another product of the surrounding country from an inscribed amphora which contains one thousand nuts.<sup>68</sup> The above products were marketed in the Macellum where charred figs, chestnuts, plums, grapes, fruit in glass containers, and lentils were found.<sup>69</sup> Finally, another product, honey, seems to have been produced and to have been used in certain treatments of wine.<sup>70</sup>

After considering the products of the villas it will be interesting to note the classes into which the estates may be divided. Professor Rostovtzeff has shown that there were three different types.<sup>71</sup> The first was a combination of a modest, sometimes luxurious, summer residence and a real *villa rustica*, which had rooms for the agricultural exploitation of a rather large estate.<sup>72</sup> The

Pliny, *N.H.*, XV, 70; cf. 72 where he mentions the Herculanean fig which had to be planted in rich soil. I am indebted to Professor Rostovtzeff for the reference to Fronto.

<sup>64</sup> *CIL*, IV, 2562.

<sup>65</sup> For the still-life paintings see Beyen, *Ueber Stilleben aus Pompeji und Herculaneum* (1928) and *Jahrb.*, 1927, pp. 41 ff. For the fruits see the plates in these works and Helbig, *Wandg.*, Nos. 1672-1691, 1718; Rostovtzeff, *Mystic Italy*, p. 63, Pl. VIII.

<sup>66</sup> For onions see Helbig, *op. cit.*, No. 1713. For radishes, *ibid.*, Nos. 1669, 1713. For asparagus, *ibid.*, Nos. 1669, 1708. For cucumbers see Rostovtzeff, *loc. cit.* For mushrooms see Helbig, *op. cit.*, No. 1694 and Beyen, *Ueber Stilleben aus Pompeji und Herculaneum*, pl. XI. For almonds see Helbig, *op. cit.*, Nos. 1676, 1682.

<sup>67</sup> Professor Rostovtzeff informs me that he believes these representations to be conventional.

<sup>68</sup> *CIL*, IV, 5761.

<sup>69</sup> Mau-Kelsey, *op. cit.*, p. 96.

<sup>70</sup> See note 15 for *mel thyminum*.

<sup>71</sup> Rostovtzeff, *Social and Economic History*, p. 503, note 21.

<sup>72</sup> Villas Nos. 27, 29, 30, and 31 in Table C.

second was a real farmhouse, very modest and spacious, used as a residence throughout the year. In two villas of this class wine shops were connected with the house.<sup>73</sup> The third type is that of the agricultural factory run by slaves and visited by the owner from time to time. It has no wall decorations, but does have small and bare living rooms and large cellars and wine presses.<sup>74</sup>

The domestic accommodations of the master's part of some of these villas and the immense proportions of the agricultural part lead one to suspect that the owners of these estates were very wealthy. The splendid wall paintings of the so-called Villa Item and of the "Villa of P. Fannius Synistor" and of one of the villas at Boscorecasse would be found only in the home of a rich man.<sup>75</sup> In other villas we find such luxuries as bathrooms with up-to-date equipment, including marble basins, ornamental faucets and provision for a constant supply of hot and cold water.<sup>76</sup> Numerous luxurious household fittings and personal ornaments were found in these villas. In fact, they would fit well Vitruvius' description of the *villa rustica* to which urban refinements which were not incompatible with farm conditions had been added.<sup>77</sup>

These facts, therefore, lead one to a consideration of the owners of the villas. What was their position at Pompeii? At the present time the names of ten owners are known.<sup>78</sup> Nine of them are Pompeians and the tenth is Agrippa Postumus. In addition to these names, we are able to recover the names of more than eighty wine growers from the inscriptions on amphorae.<sup>79</sup> A study of the families represented by these names reveals the fact that the wine growers, and consequently the owners of the villas, were members of the most wealthy and most prominent families at Pompeii. In

<sup>73</sup> Villas No. 9 (pl. XVI in Ruggiero) and No. 25 in Table C.

<sup>74</sup> Villa No. 26 in Table C.

<sup>75</sup> For the paintings of the villa at Boscorecasse see Miss Alexander in *Metropolitan Museum Studies*, I (1928-1929), 176-186; Caskey in *Boston Museum of Fine Arts Bulletin*, XXIII, 34; *Not. d. Sc.*, 1922, pp. 459 ff. For the villa of "P. Fannius Synistor" see F. Barnabei, *La Villa Pompeiana di P. Fannio Sinistore*, Rome, 1901; and Miss Richter, *Art and Archaeology*, VII (1918), pp. 239 ff. For the Villa Item see the bibliography in *Jahrb.*, 1928, pp. 298 ff. and *Journ. Rom. Stud.*, 1929, pp. 67 ff.

<sup>76</sup> *Not. d. Sc.*, 1921, pp. 442 ff.

<sup>77</sup> See, for example, various articles in the catalogue of De Cou, *op. cit.* See also Vitruvius VI, 6, 5.

<sup>78</sup> See Table C under Nos. 16, 19, 20, 23, 27, 29, 31, 37, 39, 40.

<sup>79</sup> See Table E.

fact, they represent the governing aristocracy of the city.<sup>80</sup> We should observe here that the town houses of the owners of the ten villas whose identification has been established cannot be located.<sup>81</sup> It is possible, however, to locate the houses of eight wine growers whose names cannot yet be attached to specific villas.

In the list of names of individual growers (Table E) there is to be found a large percentage of freedmen. I have been very conservative in calculating the number of them. I have not considered a Greek cognomen alone sufficient evidence for asserting the servile origin of an individual. The Greek element in the population of Campania makes it necessary to proceed so.<sup>82</sup> In my table I have indicated twenty-five individuals who may, with reasonable certainty, be taken as freedmen. Since there are eighty-two names in the list these would represent approximately 30 per cent. I have not, however, made use of certain other cognomina, concerning which there might be at times a certain amount of doubt, in indicating that certain other individuals should be considered freedmen. Eighteen names fall within this classification.<sup>83</sup> Furthermore, there are six more who may be reasonably taken as imperial freedmen.<sup>84</sup> These, then, would bring the total number to forty-nine, or about 59 per cent of the total number in the list. After making due allowances for the sake of conservatism, we may fairly assume that 50 per cent of the individuals were freed-

<sup>80</sup> *Journ. Rom. Stud.*, 1927, p. 165; Rostovtzeff, *Social and Economic History*, p. 31. A comparison of the list of candidates for office in the last decade of the city's existence with the names appearing in Tables D and E will show, however, that about 50 per cent of the candidates were members of families represented among the farmers. Yet only two individual candidates are definitely known to be farmers. See the list of candidates given by P. Willems, *Les Élections Municipales à Pompei*, pp. 122-123.

<sup>81</sup> All of these men were members of Pompeian families.

<sup>82</sup> See Frank, *An Economic History of Rome*, 2d ed., p. 268.

<sup>83</sup> The following cognomina are represented among these individuals: (1) Clemens, No. 39, (2) Speratus, Nos. 40, 61, (3) Felix, Nos. 71, 75, (4) Maximus, No. 3, (5) Verus, Nos. 5, 68, (6) Secundus, Nos. 7, 17, 46, 64, (7) Grata, No. 16, (8) Marcellus, No. 57, (9) Apollonius, No. 65, (10) Proculus, No. 70, (11) Celer, No. 80, and (12) Valens, No. 81. The numbers following the names are those from Table E. For these cognomina among freedmen see Duff, *Freedmen in the Early Roman Empire*, pp. 53 ff. and 110 ff.; Frank, "Race Mixture in the Roman Empire" in *American Historical Review*, XXI (1916), pp. 689 ff.

<sup>84</sup> Nos. 24, 27, 28, 30, 33, and 36 in Table E. For large estates of imperial freedmen see Rostovtzeff, *Social and Economic History*, p. 516.

men. We also have twelve, or about 14.5 per cent, who were certainly imperial freedmen. Adding the six mentioned above we would have eighteen, or about 22 per cent, who could be reasonably considered freedmen of the emperor. We may find still other reflections of imperial interest. The imperial family seems to have owned potteries, which supplied the farmers with amphorae and dolia. As evidence for this I would call attention to a wine amphora, found in a villa near Scafati, which bore the following inscription on its bottom: e(x) fig[li]n(is) Caesa[ri]s.<sup>85</sup> Furthermore, three dolia, bearing the signature, on the covers, of C. Julius Felix, were found in the villa at Domicella. This individual is otherwise well known as being from one of the large imperial potteries in Campania.<sup>86</sup> Many freedmen, then, seem to have penetrated into the upper classes at Pompeii, and, from the number of the freedmen, there were many with the support of the imperial family.

The wealth of the villa owners was to a great extent derived from the agricultural exploitation of their villas. As we have already observed, the most prominent part of the agricultural equipment of the villas was devoted to the production of wine and oil. Columella urged the Italians to adopt the cultivation of the vine and the olive because of the unusually satisfactory profits to be derived therefrom.<sup>87</sup> He gives an itemized account of the capital necessary for acquiring and maintaining a vineyard of seven iugera:<sup>88</sup>

Cost of 7 iugera of land	7,000 sestertii
Cost of 1 vine dresser	8,000
Cost of planting, stakes, props, and willows @ 2,000 sestertii per iugerum	14,000
6% interest until the vines produced (2 years)	3,480
	32,480 sestertii

Columella then argues that, assuming a vineyard of the worst sort, one producing only a single culeus per iugerum, the yearly income, after the vineyard began to produce, would be 2,100 sestertii, even if the wine sold at the lowest price known, namely 300 sestertii per culeus. This represents a gross income of 6.46 per

<sup>85</sup> *Not. d. Sc.*, 1922, pp. 479-480; cf. *CIL*, VII, 1331, 1 and V, 8112, 1 (XI, 6695, 1). For an imperial domain at Surrentum see Hirschfeld, *Klio*, II (1902), p. 65; *Not. d. Sc.*, 1928, p. 255.

<sup>86</sup> *Not. d. Sc.*, 1929, p. 202.

<sup>87</sup> Columella, III, 3.

<sup>88</sup> *Ibid.*

cent. But Columella believes that those vineyards should be extirpated which bear less than three culei per iugerum. Therefore, with the lowest production that he would allow selling at the poorest price, he argues that the yearly income would be 6,300 sestertii or 19.38 per cent gross. He does not make any allowance for depreciation of property, maintenance of slaves and amortization of their purchase price, cost of upkeep of the villa, taxes, and special charges, as for the vintage.<sup>89</sup> Furthermore, Columella does not stress the comparatively high cost of planting, posting, and early cultivation. In addition to these facts, we should observe that a vineyard, instead of producing a full crop in the second year, bears good crops in the third and fourth years, but is not in full bearing until the fifth year.<sup>90</sup> Columella is undoubtedly a partisan advocate. Nevertheless, the profits in the production of wine ran very high even under ordinary circumstances, and might well have risen as high as 15 per cent net. In Campania, where land was exceedingly fertile and wines were famous, it would be quite reasonable to expect that even higher profits were realized. In case, however, of an absentee owner or one not conversant with the methods of vine growing, or faulty supervision on the part of the *villicus*, the profits given above might be much lower and even, in some cases, disappear altogether. The obvious wealth of the Pompeian villa owners, however, would indicate that they had solved these problems satisfactorily.

In the case of one of the villas, namely the famous villa at Boscoreale, we are able to calculate rather closely the annual production of wine and oil. The *cella vinaria* held eighty-four dolia, which were found *in situ*. The dimensions of these dolia have been recorded by the scholar who has published the results of the excavation of this villa.<sup>91</sup> From these dimensions one may calculate the contents of each dolium, which would amount to a little more than 315 gallons. Seventy-two of the dolia seem to have held wine.<sup>92</sup> The total yearly production was then approximately 175 culei. This product alone, sold at the poorest price, would have brought in 48,000 sestertii. (Assuming a sestertius to be equivalent to five cents in our money, this amount would be \$2,400.)

<sup>89</sup> See Billiard, *op. cit.*, pp. 144-145 and chapter 4 entire for a scientific calculation of the profits in wine growing on an estate of 100 iugera.

<sup>90</sup> Bailey, *op. cit.*, V, p. 1380.

<sup>91</sup> Pasqui, *op. cit.*, col. 486. Dimensions: 0.46 m. at opening; 1.36 m., depth; 1.26 m., maximum internal diameter.

<sup>92</sup> Pasqui, *op. cit.*, col. 483.

Considering the fact, however, that we are here dealing with one of the famous wines of Campania, we should be justified in assuming a price at least three times as much as the poorest price. The amount should, then, be raised to 144,000 sestertii. We must add to this the revenue derived from the production of oil. We know approximately the number of dolia used for storing oil. The number ranges between twelve and fifteen, but, for our present purpose, let us assume twelve. The annual production of oil would, then, have been about 29 culei. Although olive groves bore a crop only once in two years, the growers probably planted their groves so that a half would bear one year and the other half the next. In doing this they would be following the advice of Columella.<sup>93</sup> Production of both of these commodities might well have ranged even higher in some years, for the ancient writers on agriculture are very explicit in stating that extra wooden *cupae* should be provided to care for any excess and also to hold over the stock in order to take advantage of any rise in market price which might be anticipated.<sup>94</sup> There would be other minor sources of profit, from the sale of grapes and olives, quicksets, perhaps a small amount of grain, and some live stock.<sup>95</sup>

It would be well to say, in passing, that the famous Boscoreale Treasure, which was found in this villa and which is now in the Louvre, probably did not belong to the owner of this villa. Although the master's part of the villa was very comfortably arranged and provided with a luxurious bath and certain other household furnishings of no mean value, the fact remains that we do not find in this villa the splendid decorations which are so prominent in so many other Pompeian villas. For this reason it seems quite likely that the treasure came from a wealthy country estate nearer the mountain, whose owner attempted too late to escape to the sea.<sup>96</sup>

The Boscoreale villa, of which we have just taken notice, was not exceptional among the villas near Pompeii in point of size and productivity of the estate attached to it. This point may

<sup>93</sup> Columella, V, 9.

<sup>94</sup> Cato, II, 3; Palladius, I, 18.

<sup>95</sup> For sale of quicksets see Columella, III, 3. For olives stored in amphorae see *CIL*, IV, 2562; *Not. d. Sc.*, 1927, p. 81 (*oliva alba*), and p. 100, no. 65 (*oliva condita*).

<sup>96</sup> For the treasure of Boscoreale see *Monuments Piot*, V, 30 ff.; pp. 130 ff., pls. XXXI ff. Strong, *Roman Sculpture* (1907), pp. 83 ff. and *id.*, *La Scultura Romana*, I (1923), pp. 80 ff. Rostovtzeff, "Le Gobelet d'Argent du Trésor de Boscoreale," *Mémoires de l'Académie des Inscriptions et Belles-Lettres*, XIII (1925), pp. 469 ff.

readily be grasped from the inspection of a table (Table A) showing dimensions of other villas, their wine presses, their oil presses, their storage space, and certain miscellaneous features which are of significance.<sup>97</sup>

There is some evidence, drawn from the inscriptions on amphorae, to show that there were individuals who owned more than one estate in the country. One inscription reads "ab Clodio Clemente de (fundo) superiore sine defrito."<sup>98</sup> It is interesting, too, to note that one member of this family owned a vine plantation in a region where Surrentine wine was produced, possibly in the vicinity of Stabia. It was probably a specialty wine, for the usual way of denoting Surrentine wine would be by the term *Surrentinum* or *vinum Surrentinum*. But, here, the inscription on the amphora reads "Surrentinum Clod(ianum) nov(um)." This particular inscription was on an amphora found at Rome and is evidence that some Clodius, of Pompeii or the vicinity, had exported the wine.<sup>99</sup> The two Clodii known as wine growers at Pompeii are not mentioned in the Pompeian amphora inscriptions as producers of Surrentine wine. The Roman inscription then would probably indicate that one or the other of the two Clodii produced wine in the neighborhood of Surrentum, possibly nearer Stabia, as well as near Pompeii.<sup>100</sup> In the case of the Vettii, there is interesting evidence that they owned a farm as far away as at Formiae in Latium. An inscription on an amphora found in their house reads:<sup>101</sup>

(I)D(I)BUS  
DE.FORMIANO.DOL.XXV

The following inscription, from an amphora, furnishes evidence of yet another case: "ex f(undo) Sittiano imo, quem coluit Antonius Martialis," etc.<sup>102</sup> It is quite likely that we know the name of this Sittius, for only one member of that family is, at least at present, known as a wine grower at Pompeii, namely P. Sittius Proculus.<sup>103</sup>

<sup>97</sup> Certain Histrian villas are quite similar to these in type, but produced little wine and were much larger. See Rostovtzeff, *op. cit.*, pp. 219 and 552.

<sup>98</sup> *CIL*, IV, 5588.

<sup>99</sup> *CIL*, XV, 4592. For added name in case of fame cf. *CIL*, IV, 5521, 5522, 5562.

<sup>100</sup> See Nos. 39 and 40 in Table E.

<sup>102</sup> *CIL*, IV, 5528.

<sup>101</sup> *CIL*, IV, 5577.

<sup>103</sup> See No. 70 in Table E.

There are some cases of the lease of estates by their owners. The farm of the Sittii, which we have just noticed, seems to have been leased to a certain Antonius Martialis.<sup>104</sup> Another instance of this is encountered in the case of an estate of the Postumii, who were a prominent Pompeian family. A certain C. Hostius Agathemerus was the lessee in this instance.<sup>105</sup>

Now that we have seen that there were many of these *villae rusticae* in the vicinity of Pompeii, it would be interesting to try to learn the extent of the villa system in the southern Campanian plain. I have prepared a sketch map (Map 1) to show the distribution of the villas excavated to date. Thirteen villas have been excavated in the region of Castellamare di Stabia and Gragnano. Eight have been found in the vicinity of Seafati, which lies to the east of Pompeii; three in the immediate vicinity of Pompeii; and one near Torre Annunziata. Three others have been found in the vicinity of Boscorecase and thirteen in and about Boscoreale. Another, somewhat far afield when compared with the others, has been excavated at Domicella, which lies between Palma and Nola. The disposition of the excavated villas in groups is accidental, seeing that all of them are found near modern towns.

It is rather difficult to estimate the size of any of the villas. Nevertheless it will be well to try to estimate the size of the farm exploited by the famous Boscoreale villa, the yearly production of wine being, as we have noted above, 175 culei. Columella, in his very bright picture of the profits of viticulture, insists that vineyards producing less than three culei per iuggerum should be exterminated.<sup>106</sup> Now, we do know that Aminean vines, although native to Campania's extremely fertile soil, were noted for the slight amount of wine which they produced. The probability is, then, that three culei per iuggerum is the extent of productivity one should assume. On this basis the Boscoreale villa would have owned approximately fifty-eight iugera of vineyards. In addition to the land actually planted with vineyards, there was need to plant on the estate itself the necessary material to equip the vineyard properly, such as props, reeds, willows, etc. Columella definitely advocates that these things be raised on the villa itself to lessen the charges against the vineyards.<sup>107</sup> According to his figures one iuggerum of land planted with willows will furnish bindings for twenty-five iugera of vineyard, one iuggerum planted with reeds will furnish frames for twenty iugera of vineyard, and one

<sup>104</sup> *CIL*, IV, 5528.

<sup>105</sup> *CIL*, IV, 5605-5610.

<sup>106</sup> Columella, III, 3.

<sup>107</sup> *Id.* IV, 30.

iugera planted with chestnuts will furnish props for twenty iugera of vineyard.<sup>108</sup> Calculating rather roughly an estate of fifty-eight iugera of vineyard would need two and one-third iugera of willow-ground, three iugera of reed-ground and three iugera of ground planted with chestnuts, thus totaling eight and one-third iugera to be used to supply the vineyard with the necessary equipment. Consequently sixty-six iugera could be said to be needed for the exploitation of the vine alone. As noted above, this villa also produced about twenty-nine culei of oil.<sup>109</sup> Adding minor items, such as grain, live stock, olives, and grapes sold at market, etc., we should be justified in assuming that the estate was one of about one hundred iugera. Incidentally one hundred iugera plots for estates, where vineyards are cultivated along with other products, are assumed as standard by Cato for the wealthy villa owner.<sup>110</sup>

Let us now compare other Campanian villas with the best preserved one at Boscoreale in point of (1) size of the villa, (2) size of the wine-press room, (3) size of the oil-press room, (4) storage space in the *cella vinaria* or *cella olearia*, and (5) size of the large agricultural court (where it exists) which was used for storage of miscellaneous items of equipment. The table (Table A), which I have prepared, does not include two of the largest and most splendid villas. In one case—that of the so-called Villa Item—the agricultural section has not been excavated, and in the second case—that of the so-called villa of P. Fannius Synistor—a special type of villa is encountered. The splendid paintings of the Villa Item and the enormous dimensions of the domestic quarters are sufficient evidence of the size and wealth of that estate. In the case of the villa of P. Fannius Synistor we encounter probably a country estate run by a city man as a hobby. The splendid decorations and the grand dimensions of the domestic quarters, when compared with the very limited quarters used for the agricultural exploitation of the estate, rather suggest this. Another reason for thinking that such is the case is that the provisions for wine mak-

<sup>108</sup> Columella, IV, 30.

<sup>109</sup> Gummerus, "Der Römische Gutsbetrieb," *Klio*, Beiheft 5, p. 79 and O. Seeck, *Geschichte des Untergangs der Antiken Welt*, I<sup>2</sup>, Anhang, p. 562, calculate the size of Columella's villa on the basis of the number of vessels used for storing oil and wine. The calculation depends upon Cato, *De Agr.*, XIII, 2 (cf. X, 4) where, unfortunately, there is no certainty as to the extent either of the vineyard or the olive grove.

<sup>110</sup> Cato, *op. cit.*, II and XI; cf. CXXXVII, where there seems to be an indication that other products were to be raised in addition to wine.

ing, so far as we know, were not paralleled elsewhere in the vicinity of Pompeii, special treading vats being used in place of the standard wine press.<sup>111</sup> This would probably indicate that a specialty wine was produced; for, to the present day, it is a maxim among wine growers and dealers that grapes trodden by the human foot produce better wine than those squeezed by the presses, which bruise the grape seeds and thus give a harsher tone to the wine. Two other villas also have not been included in the list. Only a small part of each has been excavated, but certain significant features survive and leave the impression that one is dealing with unusually large villas. The villa of M. Livius Marcellus at Boscoreale had walls of great strength, and it is quite likely that it was an extraordinarily large estate.<sup>112</sup> The villa at Domicella was outfitted with an extremely large number of *piscinae*.<sup>113</sup> This would indicate that many animals were kept, both for the exploitation of the vine and olive and also for the live stock market.

But, when we come to a consideration of the villas included in the table we will find numerous villas with large agricultural sections which may be measured and compared with our standard villa, the best preserved one at Boscoreale. Three villas in our table, Nos. 27, 31, and 34 are larger than the Boscoreale villa, No. 13. No. 27 was very sumptuously decorated and the paintings indicate that wine was produced.<sup>114</sup> In addition to the dimensions of the villa the quarters for ten or twelve slaves furnish another indication of the size of the villa. The possibility exists that the presses were placed in an adjoining building. Several unidentified structures have been found in the plain and it is possible that some of these were connected with villas. No. 31, although not completely excavated, is larger than No. 13. The *cella vinaria* and *torcularia* are not preserved but there is a court for the agricultural interests which is very much larger than the one in No. 13. Then, too, there are at least eight rooms for slaves, three more than are found at Boscoreale. No. 34, also not completely excavated, is very much larger than No. 13. And it is chiefly the agricultural part which is preserved. There are quarters for probably thirty slaves and a *cella vinaria*, not entirely excavated, which is but a little smaller than the one at Boscoreale. Again it would seem that the *torcularia* were in a different building. This is, apparently, the largest and most productive of the villas, a veritable

<sup>111</sup> Barnabei, *op. cit.*, especially p. 18.

<sup>112</sup> *Not. d. Sc.*, 1929, p. 178.

<sup>113</sup> *Not. d. Sc.*, 1929, p. 203.

<sup>114</sup> The predominance of Bacchus and of subjects related to wine, in the paintings, would seem to reflect the activity of the estate.

factory. The three smallest villas in the list would seem to be about half as large and productive as No. 13 (Nos. 2, 14, and 30). The remaining villas would seem to be about 10 per cent, on the average, smaller and less productive than the one at Boscoreale. The latter would amount to about one-half of our tabulated list. A rather fair estimate of the size of these farms would then place the average at about ninety to one hundred iugera. Several instances would be found where the farms would be about fifty iugera in extent. In the upper range there would be estates of two to three hundred iugera, as No. 34 for instance. From these indications the villa system would then seem beyond doubt to be the predominant form of agricultural enterprise in the region about Pompeii.

It would be possible to determine the period when this system of agriculture originated in Campania if we could gain insight into the history of some of these villas. To gain this knowledge adequately it would be necessary to study them at first hand. In lieu of this, however, there is some information which can be utilized by the investigator who is not on the ground. I refer to the wall paintings of the villas. Even here there are some difficulties, for excavation reports and reproductions cannot furnish the data which inspection of the actual paintings would provide. The earlier reports, particularly of the villas at Stabia, are especially unsatisfactory from this point of view.

I have prepared a table (Table B) showing the type of paintings, wherever known, with which the villas were decorated. Some villas were decorated with paintings of one style; others with paintings of two styles; and still others with paintings of three styles. Paintings of the First Pompeian Style are found certainly in three villas (Nos. 19, 22, and 23) and possibly in a fourth (No. 20). In No. 22 the bath was old fashioned and was not provided with the *suspensurae* which we may note in many other villas—a system which was introduced not long before the time of Augustus.<sup>115</sup> In the Stabian Baths at Pompeii one can see the old system in a few rooms which were not remodeled along with the rest of the building in the early days of the Empire.<sup>116</sup> Inasmuch as we know the style of decoration for twenty-one villas, counting the doubtful cases certain for the purpose of calculating a percentage, the villas decorated with paintings of the

<sup>115</sup> Seneca, *Ep.*, 90, 25. See the citations and discussion in Marquardt and Mommsen, *op. cit.*, VII, pp. 276-277; Nissen, *Pomp. Studien*, pp. 152 ff.

<sup>116</sup> Mau-Kelsey, *op. cit.*, pp. 184-185.

First Style represent 19 per cent. Adopting the same procedure we find eleven villas decorated, for the first time, with paintings of the Second Style, thus representing 55 per cent. Third Style paintings appear, for the first time, in three villas, or 14 per cent. Fourth Style paintings appear, for the first time, in two villas, or 10 per cent. Consequently we have assurance that the villa system was in vogue in Campania before 80 B.C., which is the later limit for the First Style paintings.<sup>117</sup> The probability is that there were a few large estates at that time. To characterize this first period most aptly we must say that we find the villa system here in its infancy. By the time the Second Style has been reached numerous splendid villas have appeared. See, for example, the "Villa of P. Fannius Synistor" and its splendid paintings. Most of the villas were decorated with paintings of the Second and Third Styles. Doubtless, then, the villas reached the peak of their prosperity in the time of Augustus.<sup>118</sup> This prosperity was very evidently maintained in the years immediately preceding the destruction of Pompeii.

After discussing the chronological development of the villa system this question arises: What was the disposition of the land at the time of the establishment of Sulla's colony? Some scholars have held the position that the land about Pompeii was distributed to the Roman colonists, but that the native element reasserted itself after a time.<sup>119</sup> Others have asserted that the Romans, after taking over the land, maintained their position while a few of the original inhabitants regained or continued to hold their property.<sup>120</sup> From the list which I have compiled of forty-nine families, represented among the wine growers, six families may be certainly assigned to the pre-Sullan period.<sup>121</sup> In the case of the Marii we know *vinum Marianum* but the name of no individual. At any rate, we are on safe ground in assigning one grower to this family.<sup>122</sup> Eight individual growers may then be

<sup>117</sup> See the chronological note in Table B.

<sup>118</sup> Rostovtzeff, *Social and Economic History*, p. 503, would seem to hold this opinion.

<sup>119</sup> Miss Gordon, "The Ordo of Pompeii" in *Journ. Rom. Stud.*, 1927, pp. 165 ff.

<sup>120</sup> Rostovtzeff, *op. cit.*, p. 58; Frank, *op. cit.*, p. 268.

<sup>121</sup> The (1) Marii, (2) Popidii, (3) Stlaborii, (4) Sittii, (5) Lucretii, and (6) Fufidii. For the first five names see *Journ. Rom. Stud.*, loc. cit. For the Fufidii see A. Schulten, "Italischen Namen und Stämme," *Klio*, II (1902), pp. 182, 464; *Klio*, III (1903), p. 244.

<sup>122</sup> *CIL*, IV, 5579.

accounted for in the pre-Sullan group. We should note, too, that two of the three Popidii in this group were probably of servile origin and really not descendants of that famous family of Popidii, who were so prominent in the pre-Sullan Pompeii.<sup>123</sup> And, in the case of the Stlaborii, the one individual represented was of servile origin and consequently not a descendant of the old line of that family.<sup>124</sup> Two families from our list are of doubtful assignation, the Caecilii and the Caesii.<sup>125</sup> They are represented by only two growers. Eleven families are to be assigned to the post-Sullan period.<sup>126</sup> Among them there are thirty-four growers or, to be more precise, thirty-five since there is one partnership represented.<sup>127</sup> In this group the family of the Claudii is represented by twenty-one (or twenty-two, counting both members of the partnership) growers. Twelve of these were imperial freedmen as may be noted from their praenomen and nomen, Tiberius Claudius.<sup>128</sup> Six more are probably to be reckoned among the imperial freedmen, but in these cases certainty is not attainable, for the praenomen is lacking.<sup>129</sup> Thus, eighteen of the Claudii seem to have been freedmen.<sup>130</sup> At any rate, it is quite apparent that, as far as the owners of agricultural estates were concerned, the pre-Sullan families cannot be said to have reasserted their supremacy. I have already spoken of the ascendancy of the freedmen, which we have again had occasion to notice.

Now that we have made a survey of the villa system it would be interesting to know something, if possible, about other forms of agricultural activity. A graffito scratched on the wall of the house

<sup>123</sup> L. Popidius Secundus and L. Popidius Ampliatus were probably freedmen. See *Journ. Rom. Stud.*, 1927, p. 180. For the probability that the Poppaei were a branch of the Popidii see *Klio*, III (1903), p. 254; Schulze, *Zur Gesch. Lat. Eigennamen*, pp. 366-367. If this supposition is correct, one more family, represented by two members, is to be added to the six mentioned in note 121. The list would then total seven families, representing ten individuals.

<sup>124</sup> The cognomen of M. Stlaborius Felix indicates that he was probably a freedman.

<sup>125</sup> *Journ. Rom. Stud.*, loc. cit.

<sup>126</sup> The (1) Appulei, (2) Helvii, (3) Cornelii, (4) Claudii, (5) Clodii, (6) Fabii, (7) Julii, (8) Junii, (9) Licinii, (10) Valerii and (11) Postumii.

<sup>127</sup> M. et L. Claudii. See Table E, No. 34.

<sup>128</sup> Duff, *Freedmen in the Early Roman Empire*, p. 53. See Table E.

<sup>129</sup> Nos. 24, 27, 28, 30, 33, 36 in Table E.

<sup>130</sup> See above, p. 178.

at VI, 14, 37 reads as follows: *G. Hadius Ventrio eques natus Romanus inter beta(m) et brassica(m).*<sup>181</sup> If the name were legitimate one might consider this a "waggish" reference to the spectacular rise of an individual to wealth through the medium of what was usually a business of small scale and little repute. However, *Ventrio* is a nickname and *Hadius* is not definitely known otherwise, though possibly it is to be read on a Pompeian amphora.<sup>182</sup> As the matter stands one would not be justified in drawing an important inference from the reading of the graffito. Nevertheless, the arrangements for the growing of vegetables in the villas were not of a sufficiently large scale to justify one in asserting that a large percentage of the Pompeian vegetables was raised in them. Consequently, I believe, as I suggested above, that there were many small truck gardens in the vicinity of the city.

As we have noted above, wine was stored in dolia until it had aged sufficiently to be sold. Then it was transferred to smaller containers, namely amphorae, in which it was distributed to consumers.<sup>183</sup> The inscriptions on the amphorae furnish a slight amount of information concerning the marketing of wine. This information is elicited only with difficulty because of certain ambiguities inherent in the inscriptions. The following facts will illustrate this point. A name in the genitive case may indicate either the grower or the merchant. A name in the dative case may indicate either the grower or the consumer. Often the name of the slave who produced the commodity appears and aids in causing confusion.<sup>184</sup> It will thus be apparent that one must proceed with caution in attempting to interpret these data. It is possible to ascertain the names of several individual merchants. M. Fabius Euporus was probably a merchant.<sup>185</sup> His name appears several times in the accounts of Caecilius Jucundus and on an amphora containing Cnidian wine.<sup>186</sup> M. Valerius Abinnericus (or Abennericus) has also been considered a wine merchant. His Jewish cognomen would tend to confirm this supposition. His

<sup>181</sup> *CIL*, IV, 4533. Professor Rostovtzeff has suggested to me that we may have here a proverb. I have been unable to find any proof of this.

<sup>182</sup> *CIL*, IV, 5845: T. Had(i) Col(umbi?).

<sup>183</sup> *Procul., Dig.*, XXXIII, 6, 15, 16; *CIL*, IV, 1, p. 171.

<sup>184</sup> *CIL*, loc. cit.

<sup>185</sup> *CIL*, IV, Add., p. 460.

<sup>186</sup> *CIL*, IV, 5535. *Not. d. Sc.*, 1927, p. 115, No. 149. For the accounts of Caecilius Jucundus see Nos. XXXVII, LXXI?, XCII, and XCVII.

name appears on more than fifteen amphorae, three of which contained wine imported from Etruria.<sup>137</sup> The initials A. U. M., appearing on a series of jars, almost all of different types and found apparently in different places, would seem to be those of a merchant.<sup>138</sup> Perhaps we may see another merchant in P. Appuleius Bassus, whose name appears on three jars, one of which contained *Coum vetus*, another held *Passum Lycium*, and the third was signed merely with the initials P. A. B.<sup>139</sup> M. Stlaborius Nymphodotus was also probably a merchant. His name appears on an amphora which held Cretan wine.<sup>140</sup>

It has been urged that there were no large wine merchants in Pompeii for the reason that no large storehouses have been found in or near the city.<sup>141</sup> There is some evidence from the House of the Vettii which would indicate that, despite the objection just noted, the owners of the house were large wine dealers. This evidence is derived from the frescoes, which portray scenes of the selling of wine, and from the three following inscriptions on amphorae which were found in the house:<sup>142</sup>

- (1)            XV K IAN  
DE ARRIANO.DOL XV
- (2)            IDIBUS IAN  
DE.ASINIANO.RACEMAT  
DOL I
- (3)            (I)D(I) BUS  
DE.FORMIANO.DOL.XXV

These three amphorae would seem to indicate that the Vettii withdrew wine from dolia in their storehouse (or houses) and kept a meticulous account of the cellar and the jar from which the wine was drawn. The first inscription admits of two interpretations. Vinum Arrianum refers to wine produced by some member of the family of the Arrii. We know that at least one member of the

<sup>137</sup> Remark, *op. cit.*, p. 23. *CIL*, IV, 2585, 2599–2601, 5611–5620, 5764–5765.

<sup>138</sup> *CIL*, IV, 5955–5966, 6942.

<sup>139</sup> *CIL*, IV, 5537, 5594, 6131.

<sup>140</sup> *CIL*, IV, 5526. M. M. Ve, *CIL*, IV, 5564–5565, 5758, 6916 seems also to have been a dealer. 5758 contained *mola*.

<sup>141</sup> Frank, *Economic History*, p. 257.

<sup>142</sup> *CIL*, IV, 5572, 5573, 5578. See the painting of a wine shop in the House of the Vettii, in Rostovtzeff, *op. cit.*, p. 92, pl. xiii; also, Hermann-Bruckmann, *op. cit.*, pl. 23.

family, C. Arrius Secundus, produced wine in the vicinity of Pompeii.<sup>143</sup> Thus, it appears that the Vettii may have bought outright the wine produced by one of the Arrii and that they used the *cella vinaria*, where it was stored in the villa of the Arrii, for their storehouse. The fact that the wine was left in the former owner's cellar would explain the careful system of accounting which we have noticed. Another very attractive interpretation of this inscription is that *vinum Arrianum* was a specialty wine and that the Vettii retained the name after purchasing the farm from the Arrii.<sup>144</sup> The second inscription is more difficult to interpret, for we know no Asinii at Pompeii. It seems preferable to decide that we have here a specialty wine and that the date is indicated, rather than to assume that Asiniano refers to a place. We have another amphora from Pompeii which is dated with the name of the consul, M. Asinius, in the year 25 A.D.<sup>145</sup> The third inscription shows that the Vettii owned a farm at Formiae in Latium. These considerations would explain, then, how the Vettii, and probably other wealthy Pompeians, were large wine merchants without using large storehouses within Pompeii. So, the merchant may have been a large producer who sold chiefly his own wine, or he may have purchased the entire annual production from various farmers with the stipulation that storage rights be allowed for a specified time. Another type, the importer and distributor on a large scale, I have mentioned above.

Of course, other dealers should be reckoned among the owners of the various *cauponae, tabernae vinariae, thermopolia*, etc. With the aid of Mr. G. K. Boyce, who verified and corrected my list in Pompeii, I have been able to determine the number and location of such shops in the city. The number is significantly large—129—and may well be an indication of a large proletariat. As for their distribution, one may say that they were grouped about those places which were much frequented by the public, and along the main highway which ran through Pompeii. Now, if it be true that the shops surrounding the House of Pansa were operated by slaves in the interest of their master, we may see another

<sup>143</sup> See No. 7 in Table E.

<sup>144</sup> The second interpretation was suggested to me by Professor Ros-tovtzeff, who has stated his opinion elsewhere (*op. cit.*, p. 58), that the Vettii were dealers in wine which came from their own farms. If it is true that some dealers were growers, some of the names mentioned in the text as dealers might be added to Table E.

<sup>145</sup> *CIL*, IV, 2552.

method employed by wealthy Pompeian property owners to participate in the sale and distribution of wine.<sup>146</sup>

We should also note that there is some evidence for asserting that there were contractors who bought the crops directly from the vines, or trees. Cato hints that this practice existed in his time.<sup>147</sup> Very recently an oil press has been reconstructed in the place where it was found at Pompeii, on the north side of the Strada degli Augustali, not far from the Strada di Mercurio.<sup>148</sup> A wine press, too, was found at V, 4, 6-7 about thirty years ago. The press was by no means of the usual type, heavy stones being used instead of the standard press. It was used in the period immediately preceding the destruction, for the house in which it was found was decorated with paintings of the Fourth Style.<sup>149</sup>

As to the merchants who sold other agricultural products, five different classes are known from inscriptions found at Pompeii: (1) *pomari*, (2) *gallinari*, (3) *caepari*, (4) *lupinari*, and (5) *aliari*.<sup>150</sup>

Now that we have discussed the handling of agricultural products in the domestic market, it will be interesting to see how the same products fared in the foreign market. What wines did the Pompeians import? And to whom did they export wine? Until the middle of the second century B.C., Italy was a very profitable wine customer for Greece. Beginning at that time, however, the Italians began to introduce the culture of the vine into their own land on a large scale.<sup>151</sup> Then, in the first century B.C., economic

<sup>146</sup> See the *oenopolium* in the House of Pansa. Breton, *Pompeia décrite et dessinée, avec notice sur Herculaneum* (Paris, 1855), p. 194. For slaves of owners as operators of shops surrounding houses see Rostovtzeff, *op. cit.*, p. 515. For a discussion of a relief of *phalangarii* or *saccarii* found in Pompeii see F. Marx, "Phalangarii" in *Rhein. Mus.*, LXXVIII (1929), pp. 329-336. The men portrayed in the relief are transporting the wine from the merchant to the purchaser.

<sup>147</sup> Cato, *op. cit.*, CXLIV.

<sup>148</sup> *American Journal of Archaeology*, XXXIII (1929), p. 439. See the photograph in A. Maiuri, *Visioni Italiche, Pompeii*, p. 92.

<sup>149</sup> *Not. d. Sc.*, 1902, pp. 375-377.

<sup>150</sup> *Pomari*, *CIL*, IV, 149, 180, 183, 202, 206. *Caepari*, *CIL*, IV, 99. They were stationed at the Herculanean Gate and probably brought in the products of the vegetable gardens. See Della Corte, *Neapolis*, II (1914), p. 176, note 3. *Gallinari*, *CIL*, IV, 241 and 373 (cf. Add., p. 194). *Aliari*, *CIL*, IV, 3485. *Lupinarius*, *CIL*, IV, 3423; cf. *lupinopolus*, *CIL*, IV, 3843.

<sup>151</sup> Rostovtzeff, *op. cit.*, pp. 21 and 492, note 15.

decay set in to such a great extent in Greece and the Greek islands, because of constant devastation by wars and piracy, that Italy began to export her wines to the East, indeed as far as the Red Sea ports.<sup>152</sup> The problem with which we are immediately concerned is the extent to which Pompeii was affected by this course of events. To what extent did Pompeii export or import wine? We know, of course, that Campanian wine was exported to most parts of the Mediterranean world.<sup>153</sup> We should, then, expect to find Pompeian wine exported. We know, from inscriptions on amphorae, that the wine of Vesuvius, *Vesuvinum vinum*, was exported to Carthage.<sup>154</sup> Surrentine wine, which was probably produced in the region of Stabia, and which would accordingly fall within the range of our discussion, was imported into Rome.<sup>155</sup> Indeed, the chief maritime activity of Pompeii seems to have been the exportation of wine and oil. A reflection of this activity may be seen in the many amphorae and dolia which were found in sheds recently excavated at the site of the ancient port.<sup>156</sup>

When we come to the discussion of the wines imported into Pompeii we find a larger amount of material upon which to base our judgment. In or near Pompeii about 1,500 inscribed amphorae were found. Many of these contained wine. The problem is, however, somewhat more complicated than the mere reading of inscriptions. As mentioned above, the culture of the vine on a large scale was introduced into Italy at a comparatively late date. The question is, therefore, suggested to us: did the various vines in any case retain their original names when planted in Italy, so that one might encounter, for example, a Chian wine which was the product of Chian vines planted in Italy? In Egypt the Greek population desired their native wines, and native Greek vines were imported and planted. In the third century B.C., the estate of Apollonius was transformed into a vineyard planted with the best sorts of Greek vines.<sup>157</sup> The transplanted vines retained their

<sup>152</sup> *Periplus Maris Erythraei*, 6 and 49.

<sup>153</sup> Rostovtzeff, *op. cit.*, pp. 68 and 493.

<sup>154</sup> *CIL*, VIII, 22640, 31. For other Campanian wines exported to Carthage see Remark, *op. cit.*, p. 22.

<sup>155</sup> *CIL*, XV, 4592.

<sup>156</sup> *Not. d. Sc.*, 1928, pp. 369 ff. Additional information on the port may be found in *Not. d. Sc.*, 1901, pp. 423 ff. and *Atti della R. Accad. di Napoli*, VIII (1920), p. 28.

<sup>157</sup> Rostovtzeff, *A Large Estate in Egypt in the Third Century B. C.*, pp. 93 ff.

original names in many cases.<sup>158</sup> Such transplantation of vines is not always successful. We have reliable scientific information to the effect that the quality of wine produced from vines is determined to a great extent by the soil.<sup>159</sup> Now, in Egypt there is reason to believe, to take one example, that Chian vines did not produce wine which was as good as the native Chian product. This is proved by a papyrus, dated May-June, 259 B.C., which gives an account, based on a customs declaration, of the expenses incurred when a shipment of goods was brought into Egypt through the customs at Pelusium. Among the items listed is Chian wine, which was taxed 50 per cent.<sup>160</sup> The cost of transportation and the 50 per cent duty would certainly make the native Chian wine much more expensive than the Egyptian-grown Chian. This would indicate that the Chian wine produced in Egypt was not very satisfactory. When we consider the vines brought from foreign districts to Italy, we find that they lost their former names in some cases and retained them in others. The *Murgentina*, which was the best of the vines imported from Sicily, was planted at Pompeii and thereafter called *Pompeianum*. On the other hand, Rhodian and Libyan vines were imported into Italy and seem to have retained their native names.<sup>161</sup> But, it seems quite certain that one wine, at least, could not be satisfactorily grown in Italy, namely the Coan. Columella, who makes recommendations as to the best foreign vines to be planted in Italy, quite significantly fails to mention this one.<sup>162</sup>

To come to our immediate problem, we find in Pompeii wine amphorae inscribed with the names of seven districts outside of Italy: (1) *Lauronense*, from Spain, (2) *Coum*, (3) *Cnidium*, (4) *Creticum*, (5) *Lycium*, (6) *Tauromenitanum*, from Sicily, and (7) *Mesopotamium*, from Sicily. The *Coum* and the *Tauromenitanum* were the most frequently imported.<sup>163</sup> Coan wine had been

<sup>158</sup> See P. Cairo Zenon 79, date 257 B.C., as quoted by M. Schnebel, *Die Landwirtschaft in hellenistische Aegypten*, I, p. 252.

<sup>159</sup> Bailey, *op. cit.*, V (1915), p. 1378. Columella, III, 1 was acquainted with this fact.

<sup>160</sup> C. C. Edgar, "Zenon Papyri" in *Catalogue Général des Antiquités Égyptiennes du Musée du Caire*, I (1925), No. 59012, pp. 21-27.

<sup>161</sup> Pliny, *N.H.*, XIV, 8, 5 for the *Murgentina*. Columella, III, 1 for the Rhodian and Libyan.

<sup>162</sup> Columella, *loc. cit.*

<sup>163</sup> *Coum*, *CIL*, IV, 5536 ff. *Cnidium*, *CIL*, IV, 5535. *Passum Lycium*, *CIL*, IV, 5594. *Creticum*, *CIL*, IV, 5526. *Lauronense*, *CIL*, IV, 5558. *Tauromenitanum*, *CIL*, IV, 2618, 5563-5568, *Not. d. Sc.*, 1927, p. 30 and p. 106, No. 100, and p. 96, No. 31e, and p. 82, No. 33. *Mesopotamium*,

greatly favored in Italy for many years. Varro complained that the Italians imported wine from Cos, among other places, instead of growing it themselves. So, despite the expense, it was imported in rather large quantities.<sup>164</sup> That it was expensive may be inferred from the fact that Cato gave instructions for making Coan wine by adding salt water to native wine and subjecting the resultant mixture to a special treatment.<sup>165</sup> It is quite evident, then, that the Italians would have acclimatized the vine in Italy if it had been at all possible. Are the inscriptions reading *Coum* to signify wine produced from Coan vines planted in Italy? The answer should certainly be in the negative. Had Coan vines been acclimatized they would have, in view of the great popularity of the wine, attained a comparatively large acreage. Quickssets were very easily procured and any type of vine could have been extended quickly over a large territory after a few vines had been introduced.<sup>166</sup> In that case we should expect to find the name *Coum* appearing quite often, for certainly such a valuable trademark would not have been omitted. Without personal inspection of the amphorae inscribed with the name *Coum*, which would probably afford even more conclusive evidence, we must conclude that Coan wine was being imported into Pompeii in the first century after Christ. In view of the fact noted above, that the economic decay of the Greek lands in the first century B.C. had led to a reversal of the usual course of trade in wine so that Italy exported that commodity to the East, it is interesting to note that there was a revival of agriculture in the Greek islands to the extent that they began once more to export wine to Italy in the first century of our era. It seems to be a safe assumption that the six other wines in the list above were also imported.

Finally, we should take account of the wine imported from districts within Italy. First, the following wines were imported from districts outside of Campania: (1) *Formianum* from Latium, (2)

*CIL*, IV, 2602–2603. *Coum Arndua*, *CIL*, IV, 5540, cannot be explained. See Remark, *op. cit.*, p. 21. *Coum Gran.*, *CIL*, IV, 2565, was a specially treated wine. See Remark, *loc. cit.* For the types of Coan wine see Marquardt and Mommsen, *op. cit.*, VII, 438–439. It is barely possible that Coreyrean wine was also imported into Pompeii. It depends upon a questionable restoration of *CIL*, IV, 2584. For a jar with an inscription indicating that it was brought to Pompeii on a certain ship see *Not. d. Sc.*, 1905, p. 257.

<sup>164</sup> See Varro, *R.R.*, II, 1, 3.

<sup>165</sup> Cato, *op. cit.*, CXII; cf. Pliny, *N.H.*, XIV, 79.

<sup>166</sup> Columella, III, 9.

*Lunense* from Etruria, and (3) *Setinum*.<sup>167</sup> Second, the following wines were imported from places within Campania: (1) *Capuanum*, (2) *Gauranum*, (3) *Surrentinum* (this wine was probably produced near Stabia and should probably be considered as belonging, to a certain extent, to the group of Pompeian wines), (4) *Trifolinum*, (5) *Falernum*, and (6) *Leucogaeum*. All the Italian and Campanian wines were imported in small amounts.<sup>168</sup>

Now, we should take cognizance of the type of labor employed by the villa owners. In the villas of the southern Campanian plain there were often provisions for the housing of slaves, in one case quarters being provided for as many as thirty slaves.<sup>169</sup> *Ergastula* and stocks were also a significant part of the equipment.<sup>170</sup> The ancient writers on agriculture freely assumed that slaves were to be used on their ideal estates. Indeed, the usual estimate for the number of slaves required for a vineyard of the extent of one hundred iugera was fifteen or sixteen.<sup>171</sup> In the harvest season, for the vines and perhaps for certain other products, extra labor was needed and there seems to be good reason to think that laborers, enfranchised residents of Pompeii, were brought out from the city for the occasion. In fact, we find the *vindemitores*, the helpers employed during the vintage season, supporting a candidate for office in the city.<sup>172</sup> From the graffiti, too, which are usually to be ascribed to the lower classes and which would probably reflect their habits of life and occupations, comes an indication that members of certain classes in the city worked during

<sup>167</sup> *Formianum*, *CIL*, IV, 5577. *Lunense*, *CIL*, IV, 2599–2601. *Setinum*, *CIL*, IV, 1292.

<sup>168</sup> *Capuanum*, *CIL*, IV, 2833. *Gauranum*, *CIL*, IV, 5511. *Surrentinum*, *CIL*, IV, 2555, 5514, 5521, 5523, 5525, 5560–5562, *Not. d. Sc.*, 1927, p. 114, No. 147; p. 115, No. 149; p. 82, Nos. 30–32. *Trifolinum*, *CIL*, IV, 5518, 5570. *Falernum*, *CIL*, IV, 2566; cf. *Falerno Puro*, *CIL*, IV, 6896 as corrected in *Not. d. Sc.*, 1922, p. 477. *Leuc(ogaeum)*, *CIL*, IV, 5590. I do not accept the reconstruction of *Leuc(ocoum)* made by Remark, *op. cit.*, p. 20. For the famous *colles Leucogaeae* of Campania see Pauly-Wissowa-Kroll, *op. cit.*, III, 1435.

<sup>169</sup> *Not. d. Sc.*, 1923, p. 277. See Rostovtzeff, *Social and Economic History*, p. 516.

<sup>170</sup> For *ergastula* see column headed "Remarks" in Table A. For stocks see the stocks for fourteen slaves found in one villa, No. 31, *Not. d. Sc.*, 1922, p. 461. See also *Not. d. Sc.*, 1923, p. 277, fig. 4 and the reproductions in Rostovtzeff, *op. cit.*, p. 62, pl. ix. For slaves in the culture of oil and wine see Marquardt and Mommsen, *op. cit.*, VII, pp. 136 and 138; Gummerus, *op. cit.*, pp. 80 ff.

<sup>171</sup> Cato, *op. cit.*, XI; Varro, *op. cit.*, I, 18; cf. Columella, III, 3.

<sup>172</sup> *CIL*, IV, 6672.

the vintage season for the villa owners. This graffito, somewhat obscene, refers to the practices of a certain woman at the *vinde-mia*.<sup>173</sup> From the graffiti, again, we learn that the *agricolae* supported a certain candidate for office.<sup>174</sup> The people thus referred to are not easy to identify. It is possible that they should be identified with the *vindemitores*. It is much more likely that they were free farm laborers who lived in the city and went out to the country to work. A parallel for this may be found in Roman Britain.<sup>175</sup> Although the system employed on Columella's ideal estate was based on slave labor, there was some allowance made for the use of free labor. For example, Columella, when discussing the matter of clearing stony land, says that the stones should be buried in deep furrows, but only in case the wages of the laborers were low.<sup>176</sup> Varro, too, speaks of certain methods to be pursued in the harvesting of corn, in case the labor was not expensive.<sup>177</sup> Again, the *agricolae* referred to might have been the cultivators of small plots. Finally, they might even have been the villa owners. Any candidate would have been eager to obtain and advertise the support of the farmers of Pompeii. The "farm bloc" was very powerful.

We should now observe that, in addition to the facts heretofore considered, there is another very good indication that Pompeii was essentially an agricultural community. I refer to the existence there of seasonal fairs.<sup>178</sup> Proof that such fairs were held at Pompeii is to be seen in the accounts, scratched on the walls of a *taberna vasaria* located at III, 4, 1, of markets at Pompeii, Nuceria, Atella, Nola, Puteoli, Rome, and Capua.<sup>179</sup>

Whence came the implements and farming supplies needed by this agricultural community? At I, 6, 12 there has been partially excavated the shop of a hardware dealer, Junianus. The following finds are significant: (1) thirty large reaping hooks, (2) stocks for slaves, (3) sickles for trimming vines, (4) knives of various kinds, (5) bronze ornaments for harness, and (6) four bridles.<sup>180</sup> We cannot be sure, however, that all of these imple-

<sup>173</sup> *CIL*, IV, 1391.

<sup>174</sup> *CIL*, IV, 490.

<sup>175</sup> Haverfield, *The Roman Occupation of Britain*, pp. 218-219.

<sup>176</sup> Columella, II, 2, 12; cf. III, 13, 12. <sup>177</sup> Varro, *op. cit.*, I, 53.

<sup>178</sup> For the significance of these fairs see Rostovtzeff, *Social and Economic History*, p. 559, note 89.

<sup>179</sup> *Not. d. Sc.*, 1927, p. 98; *Rivista Indo-Greca-Italica*, VIII (1924), p. 118. Della Corte, *Pompeii, The New Excavations* (Valle di Pompeii, 1927), p. 15.

<sup>180</sup> *Not. d. Sc.*, 1912, pp. 336, 354-355; Della Corte, *New Excavations*, p. 15.

ments were manufactured in Pompeii. This may be well shown by the following fact. Some time ago there was found in one of the villas a bronze wine strainer bearing the inscription : *Pertudit Pompeis Felicio.*<sup>181</sup> Professor Rostovtzeff has suggested to me an explanation which seems very likely : that the bowl was probably made in Capua (or Nola) and imported into Pompeii where it was perforated by the artisan so that it might be used as a wine strainer. In fact, we know from a passage of Cato that Capua and Nola were the chief Campanian centers for the manufacture of bronze urns for wine and similar products.<sup>182</sup> The same passage informs us that, on the other hand, *trapeta* were to be obtained chiefly at Pompeii. The same author gives the prices for the Pompeian *trapeta* in another passage.<sup>183</sup>

To sum up, the villa system was in its beginnings in the period immediately preceding 80 B.C. The Roman colony established by Sulla dispossessed the former owners of their property and very few regained their holdings. But, by the time of the destruction, these veterans had been displaced, in large part, by freedmen, among whom we find a large number of imperial freedmen. The villa system reached the peak of its prosperity in the time of Augustus, when most of the villas were built. This prosperity was maintained up to the time of the destruction. To say that the Campanian plain was given over solely to the production of wine and olive oil because of its fertility is to fall into error. Moreover, the villas did not engage in specialized agriculture altogether. In addition to raising wine, oil, fruit, and grain they paid some attention to the rearing of live stock. The Building of Eumachia, the several fulleries and the tannery at Pompeii reflect, to a certain extent, the attention paid to this branch of agriculture. The wool from the border lands of Samnium and Apulia, as well as that from the region near and to the south of Gragnano, was evidently brought to the fullers of Pompeii.<sup>184</sup> On the other hand, the villas were not entirely self-sufficing units. It was necessary to buy clothing at Pompeii. Furthermore, architects,

<sup>181</sup> *Not. d. Sc.*, 1921, p. 425, fig. 6. For similar wine strainers see V. Spinazzola, *Le Arti Decorative in Pompeii e nel Museo Nazionale di Napoli*, pl. 300.

<sup>182</sup> Cato, CXXXV. I do not mean to deny the existence of any bronze working at Pompeii, for obviously it did exist to a certain extent. See Rostovtzeff, *Social and Economic History*, p. 514.

<sup>183</sup> Cato, XXII.

<sup>184</sup> For the sheep in the mountains south of Gragnano see Seneca, *Nat. Quaest.*, VI, 27. The distance involved in the case of Samnium and

painters, and plumbers were brought out from the city to decorate the houses and supply the conveniences.<sup>185</sup> Finally, although it is evident that the cultivation of small plots was by no means crowded out, the villa system represented the predominant form of agricultural enterprise in the southern Campanian plain. Probably here, as the case seems to have been elsewhere, the smaller plots, although not disappearing, lost their social and economic significance.<sup>186</sup> The estates we have surveyed conform closely to the specifications appearing in the writings of Cato, Varro, and Columella, who were interested in the large scale development of agriculture.<sup>187</sup>

So much for the agricultural life of Pompeii. The eruption of Vesuvius in 79 A.D. effectively estopped cultivation in much of Campania. One of Martial's poems, written nine years later, speculated upon the time when vegetation would return to the devastated regions.<sup>188</sup> The same sentiment is echoed by Statius sixteen years after the eruption.<sup>189</sup> So, despite the heroic efforts of the Emperor to restore these districts to cultivation, Italy was deprived of an important source of wealth for at least sixteen years following the eruption.<sup>190</sup>

Apulia was no handicap, for flocks seem to have been brought in many cases from Apulia to Samnium and farther for the summer. See Varro, *op. cit.*, II, 1, 16; 2, 9.

<sup>185</sup> Frank, *Economic History*, p. 266, has emphasized this point. One surveyor, who lived in Pompeii, is known to us. He lived at I, 6, 3. Della Corte, *New Excavations*, p. 18. For the *groma* found there see *Mon. Ant. Accad. Lincei*, XXVIII (1922), pp. 5 ff.

<sup>186</sup> Rostovtzeff in *Handwörterbuch d. Staatswissenschaft* (Abschn. 4), p. 917; Weber, *Agrargesch. des Altertums*, p. 165; cf. S. Reinach, *Rev. Arch.*, 1900, 2, p. 350; G. Carl, "Die Agrarlehre Columellas" in *Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte*, XIX (1926), pp. 22 ff.

<sup>187</sup> See Gummerus, *op. cit.*

<sup>188</sup> Martial, IV, 44. The poem was written in 88 A.D. See E. Friedlaender, *M. Valeri Martialis*, I, p. 358.

<sup>189</sup> Statius, *Silvae*, IV, 4. The poem was written in the summer of 95 A.D. See F. Vollmer, *P. Papini Statii Silvarum Libri*, p. 9.

<sup>190</sup> For the measures taken by the Emperor see Cassius Dio, LXVI, 24. For the early revival of vegetation after an eruption see R. F. Griggs, *The Valley of Ten Thousand Smokes* (Washington, The National Geographic Society, 1922), especially chap. v, "The Recovery of Vegetation at Kodiak," pp. 45-56. At Kodiak, where about one foot of ash had fallen, vegetation had recovered to a very great extent within three years after the eruption of the Katmai volcano. I owe this reference to the kindness of my colleague, Professor Charles Knapp.

TABLE A

Villa No.	Building	Wine Press	Oil Press	Storage	Court	Remarks
2.	13.8 x 23	.....	9.1 x 7.3	9.1 x 3.74	15.3 x 9	Two ergastula.
5.	26.5 x 29.5	.....	4.4 x 11.6 (2) <sup>a</sup>	.....	29.5 x 9.2	Five rooms for slaves.
7.	22 x 21.5	6.8 x 5.2	.....	3.8 x 6.8	16.5 x 18.4	.....
8.	22 x 22	4.4 x 6	.....	.....	12.7 x 20.2	.....
9.	.....	.....	.....	11.4 x 15.4	.....	Probably only two-thirds to be considered.
10.	23.9 x 17.8	3.08 x 6.16	.....	{ 34 qm. { 4 rooms	7.2 x 10.7	6.1 x 7.7 for floors, wine shop, chickens.
13.	26 x 40	7 x 17 (3) <sup>b</sup>	4.5 x 8	15.5 x 17	13 x 18	Oil also stored in corridor.
25.	33 x 27 <sup>c</sup>	4 x 8	.....	{ 2.5 x 4 { 8.5 x 5	.....	Capacity for storage 36-48 medium-sized dolia.
27.	36 x 33	.....	.....	.....	.....	Room for 10 or 12 slaves. Paintings indicate wine production.
28.	23 x 23 plus (23 x 6) <sup>d</sup>	4 x 6.5	.....	.....	.....	Caupona. Viridarium.
29.	25 x 31	6 x 7	.....	8 x 10	.....	Capacity of cella vinaria about 50 medium-sized dolia. Space for 29 more.
30.	17.5 x 21	4.76 x 5.76	.....	.....	.....	.....
31.	27 x 40 Inc. <sup>e</sup>	.....	.....	14 x 28	At least 8 slave rooms.	
33.	29 x 31 Inc. <sup>e</sup>	.....	.....	11.5 x 15	Room for 50-60 dolia. Chiefly agricultural part preserved.	
34.	40 x 40 <sup>f</sup>	.....	.....	12 x 18 <sup>g</sup>	22 x 27	19 slave rooms. Probably 30 slaves.
35.	24 x 36 Inc. <sup>e</sup>	.....	.....	12 x 12	11 x 21	At least 30 dolia.
36.	.....	.....	.....	.....	20 x 9	.....
14.	16.5 x 27.5	4.5 x 7	.....	9 x 11	.....	Raised grain. Probably 30 dolia.

**Note:** All dimensions are in meters. Being taken from plans, they are approximate. a. Two presses. b. Three presses. c. In largest dimensions. d. Dimensions of extension also given. e. Incomplete. f. Extension still to be added. g. Possibly as much as twice the dimensions given.

TABLE B  
STYLE OF WALL PAINTINGS IN THE VILLAS

<i>No. of</i>	<i>Villa</i>	<i>Styles</i>
13		IV
14		III
15		III
16		II
19		I
20		I?
22		I and II
23		I
24		II
27		II and IV
29		II, III, and IV
30		III
31		II, III, and IV
33		IV
35		IV and possibly II
36		II or III
37		II?
1-12		These villas, located near Gragnano and Castellamare di Stabia, were excavated early and the reports furnish data which are unsatisfactory for determining the style of painting. To judge from the reports, however, the following styles may be noted in the villas indicated:

<i>Villa</i>	<i>Style</i>
1	II? or III?
5	II? or III?
7	II? or III?
10	II? or III?

Approximate dating for paintings of various styles:

I—before 80 B.C.

II—80 B.C.—Augustus

III—Beginning of reign of Augustus—50 A.D.

IV—50 A.D.—79 A.D.

This chronological system is taken from Mau-Kelsey, *Pompeii* (2d ed.), pp. 457 ff. Miss Swindler in her *Ancient Painting* (Yale University Press, New Haven, 1929), p. 369, would seem to place the beginning of period III at 10 B.C.

## TABLE C

A LIST OF THE VILLAS THUS FAR DISCOVERED  
IN THE VICINITY OF POMPEII(Not. stands for *Notizie degli Scavi*.)

- 1-12. Near Stabiae and Gragnano. M. Ruggiero, *Degli Scavi di Stabia*, Naples, 1881, pls. IX-XIX.
13. The famous villa whence comes the Boscoreale Treasure, in the Contrada Pisanella, near Boscoreale. A. Pasqui, "La Villa Pompeiana della Pisanella presso Boscoreale" in *Monumenti Antichi*, VII (1897), coll. 397-554.
14. Near Boscoreale. Not., 1895, pp. 214-215; 1897, pp. 391 ff.
15. Near Boscoreale. Not., 1898, pp. 419 ff.
16. Near Boscoreale, the villa of Publius Fannius Synistor. F. Barnabei, *La Villa Pompeiana di P. Fannio Sinistore*, Rome, 1901. The real owner was L. Herius Florus. See *Rend. della R. Accad. di Napoli*, 1901, p. 18; cf. *Neapolis*, II (1914), p. 172, note 4.
17. Near Scafati. Not., 1898, pp. 33 ff.
18. Near Scafati. Not., 1900, pp. 203 ff.
19. Near Scafati. Not., 1899, pp. 392 ff. The owner was Cn. Domitius Auctus.
20. Near Torre Annunziata. Not., 1897, pp. 337 ff.; 1898, pp. 494 ff.; 1899, pp. 236 ff.; cf. 1900, p. 69. The owner was T. Siminius Stephanus. See *Neapolis*, II, p. 169.
21. Fondo Barbatelli, near Porta Vesuvio. Not., 1899, pp. 439, 493; 1900, pp. 30, 70, 500, 599; cf. p. 584.
22. Near Boscoreale. Not., 1903, pp. 64 ff.
23. Near Boscorecase. Not., 1899, pp. 297 ff.; *Mem. d. R. Acc. di Napoli*, II (1913), p. 191. The owner was L. Arellius Successus. See *Neapolis*, II, p. 171.
24. The Villa Item, near Pompeii. Not., 1910, pp. 139 ff.; 1922, pp. 480 ff.
25. Near Boscoreale. Not., 1921, pp. 415 ff.
26. Near Boscoreale. Not., 1921, pp. 423 ff.
27. Near Boscoreale. Not., 1921, pp. 426 ff. The owner was a certain Asellius. See *Neapolis*, II, p. 174.
28. In Boscoreale station grounds. Not., 1921, pp. 436 ff.
29. Villa of N. Popidius Florus, near Boscoreale. Not., 1921, pp. 442 ff.
30. Near Boscoreale. Not., 1921, pp. 461 ff.
31. Near Boscorecase. Not., 1922, pp. 459 ff. The owner was Agrippa Postumus. See Rostovtzeff, *Social and Economic History of the Roman Empire*, pp. 496-497.
32. Near Scafati. Not., 1922, pp. 479 ff.
33. Near Gragnano. Not., 1923, pp. 271 ff.

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34. Near Gragnano. *Not.*, 1923, pp. 275 ff.
35. Near Scafati. *Not.*, 1923, pp. 280 ff.
36. Near Scafati. *Not.*, 1923, pp. 284 ff.
37. Contrada Moregine, east of Pompeii. *Not.*, 1880, pp. 495 ff.; 1881, pp. 25 ff. The owner was M. Ampius. See *Neapolis*, II, p. 169.
38. Near Boscoreale. *Not.*, 1895, pp. 207 ff.
39. In Boscoreale. *Not.*, 1929, pp. 178 ff. The owner was M. Livius Marcellus.
40. In Boscotrecase. *Not.*, 1929, pp. 189 f. The owner was Eros (L. Eumachius Eros?).
41. In Valle di Pompeii. *Not.*, 1929, pp. 190 ff.
42. At Domicella. *Not.*, 1929, pp. 199 ff.
43. Near Scafati, in the Contrada Acquavitara. *Not.*, 1928, pp. 375 ff.

TABLE D  
LIST OF FAMILIES REPRESENTED AMONG  
THE WINE PRODUCERS

1. Allii.
2. Ampii. *Neapolis*, II, p. 169.
3. Amullii.
4. Annii.
5. Antonii.
6. Appulei. Appear in the accounts of Caecilius Jucundus.
7. Arellii. One member of the family was prominent enough to have a funeral at public expense. *Neapolis*, II, p. 171, note 8; *Mem. della R. Accad. di Arch. Lett. e Bell. Arti*, II (1913), p. 191.
8. Arpii. Owned wine estates in country and houses in city. Furnished four ministers for the college of Fortuna Augusta. Some were evidently freedmen. *Rivista Indo-Greca-Italica*, III, p. 112, note 1.
9. Asellii.
10. Ateii.
11. Aurelii. *Riv.*, IV, p. 109, note 3.
12. Badii.
13. Caecilii. Wealthy and prominent. *Neapolis*, II, p. 330.
14. Caesii. Prominent in business, public life and agriculture. *Neapolis*, II, p. 307, note 4.
15. Ceii. Prominent in polities and business. *Journal of Roman Studies*, 1927, p. 170. *Riv.*, 1923, p. 84, note 3.
16. Claudi. Represented chiefly by freedmen, at least in the case of the landholders, and very wealthy. *Riv.*, V, p. 94, note 3; *Neapolis*, II, p. 173, note 1.
17. Clodii. Noble family. Appear often in accounts of Caecilius Jucundus. *Neapolis*, II, p. 319, note 5.
18. Cornelii. Wealthy. Prominent in municipal politics. *Neapolis*, II, p. 189, note 2.
19. Domitii. At least one was prominent industrialist. *Neapolis*, II, p. 172, note 1.
20. Eumachii. At least one was prominent industrialist. *Not. d. Sc.*, 1929, p. 190.
21. Fabii. Intermarried with Ceii, another wealthy family. *JRS*, 1927, p. 170. *Neapolis*, II, p. 180, note 4.
22. Fufidii.
23. Gavii. One duumvir, one or two other candidates, and farmers.
24. Geminii.
25. Helvii.
26. Herii.
27. Julii.
28. Junii. One candidate for aedile. Mentioned in the accounts of Caecilius Jucundus. *Neapolis*, II, p. 329, note 3.

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29. Licinii.
30. Livi. Few in Pompeii. Known chiefly as wine producers. *Riv.*, V, p. 102, note 4.
31. Lucretii. Very prominent. *JRS*, 1927, p. 170.
32. Marii. Prominent in municipal politics. *Riv.*, III, p. 117.
33. Mucii.
34. Octavii.
35. Oppii. Moderately wealthy. *Riv.*, V, p. 66, note 5.
36. Popidii. One of the most renowned families of the ancient nobility of Pompeii. *Riv.*, IV, p. 114, note 5.
37. Poppaei. Wealthy and influential. *Neapolis*, II, pp. 314-315.
38. Postumii. Prominent. *Riv.*, V, p. 106.
39. Propertii. Little known about this family in Campania. *Not. d. Sc.*, 1898, p. 497.
40. Rustii. Very wealthy. Very large house in Pompeii, at IX, 8, 6, with many slaves. *Riv.*, III, p. 123.
41. Siminii.
42. Sittii. Illustrious from the earliest times. *Riv.*, V, p. 99.
43. Stilborii. One had an important municipal post; another produced *garum*. *Neapolis*, II, p. 306.
44. Terentii. Numerous; found in every social level. *Riv.*, III, p. 115, note 1.
45. Tiburtii.
46. Tironii.
47. Valerii. One candidate for aedile. One owned a fine house in Pompeii. *Neapolis*, II, p. 329, note 2.
48. Vettii. Splendid house. Wealthy business men. Some magistrates. *Neapolis*, II, pp. 310 ff.
49. Vibii. Prominent as office holders. One produced many dolia. *Riv.*, IV, p. 115, note 8.

The following families were not represented by individuals, but rather by names of wines or farms:

1. Badii. Fundus Badianus, *CIL*, IV, 5520; cf. 2551.
2. Geminii. Vinum Geminianum, *CIL*, IV, 5578.
3. Marii. Vinum Marianum, *CIL*, IV, 5579.
4. Propertii.
5. Tironii. Vinum Tironianum, *CIL*, IV, 5581, 5582.
6. Tiburtii.

TABLE E  
LIST OF NAMES OF WINE GROWERS WHO  
OWNED HOUSES IN POMPEII

1. A. Vettius Restitutus and A. Vettius Conviva. VI, 15, 1. *Neapolis*, II, pp. 312-313.
2. N. Fufidius Successus. V, 2, NE. corner. *Neapolis*, II, p. 335.
3. Τι. Κ(λαύδιος) Ἐπαφρόδιτος. Caupona at IX, 7, 23. *Riv.*, V, p. 94.
4. L. Popidius Ampliatus. I, 4, 5. *Riv.*, VII, p. 79.
5. C. Poppaeus Firmus. VI, 14, 38. *Neapolis*, II, p. 318.
6. A. Rustius Verus. IX, 8, 6. *Riv.*, III, pp. 122-123.
7. M. Lucretius. Predominance of paintings with subjects referring to production of wine. Helbig, *Wandg.*, Indices, p. 842.
8. L. Ceius Secundus, I, 6, 15.

LIST OF NAMES OF WINE PRODUCERS WHO  
WERE MEMBERS OF POMPEIAN FAMILIES

NOTE: Numbers following name refer to the number of inscriptions in *CIL*, IV. *AHR* refers to T. Frank, "Race Mixture in the Roman Empire," in the *American Historical Review*, XXI (1916), pp. 689 ff. Duff refers to Duff, *Freedmen in the Early Roman Empire*.

1. M. Ampius. *Neapolis*, II, p. 169.
2. M. Amullius Hermes. 5772; cf. 5771. Cognomen indicates freedman. *AHR*. Duff, pp. 53 ff.
3. C. Annius Maximus. 5773.
4. C. Antonius Rusticus. 5585.
5. Appuleius Verus. 5761. Although this amphora contained nuts, it is reasonable to believe that the individual named was a farmer and a producer of wine.
6. L. Arelius Successus. 2643, 5863. Cognomen indicates freedman. Duff, p. 110.
7. C. Arrius Secundus. 6312; cf. *vinum Arrianum*, 5572.
8. Asellius. *Neapolis*, II, p. 174.
9. M. Ateius Pier (?). 5780.
10. M. Aurelius Hermes. Seven amphorae in *Not. d. Sc.*, 1914, pp. 199-200. Cognomen indicates freedman. *AHR*. Duff, pp. 53 ff.
11. M. Aurelius Soter. 2628. Cognomen indicates freedman. See note to No. 10.
12. T. Aurelius Proculus. 5781.
13. L. Caecilius Hermes. 5755, 5895. Cognomen indicates freedman. See note to No. 10.
14. Καικιλία. 6544, 6545.
15. Caesia Helpis. 5789, 5791, 5793; cf. *vinum Caesianum*, 5516.
16. Ceia Grata. 5800.

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17. L. Ceius Secundus. 6054, 6056, 6057; cf. 6053, 6055.
18. Ti. Κλα(ύδιος) Αίνεικος. 5535. Imperial freedman. Duff, p. 53.
19. Ti. Κλαύδιος Ἀνά . . . 6992. Imperial freedman. Duff, *loc. cit.*
20. Ti. Claudius Anicetus. 5805, 6399–6402, 6930, 6993. Imperial freedman. Duff, *loc. cit.* Name appears also in Greek.
21. Ti. Claudius Antiochus. 5751, 5806, 6403–6404. Name appears also in Greek. Imperial freedman. Duff, *loc. cit.*
22. Ti. Κ(λαύδιος) Ἀντίφιλος. 6405. Imperial freedman. Duff, *loc. cit.*
23. Ti. Κ(λαύδιος) Ἀπαροχα. 6406. Imperial freedman. Duff, *loc. cit.*
24. Κ(λαύδιος) Ἀτείμητος. 6407.
25. Ti. Κ(λαύδιος) Ἐπαφρόδιτος. 5942b, 6408. Imperial freedman. Duff, *loc. cit.*
26. Ti. Claudius Euh(odus?). 5807. Imperial freedman. Duff, *loc. cit.*
27. Κλ(αύδιος) Εὐφρόνιος. 6417, 6418.
28. Κλαύ(διος) Εὔρυτος. 6409–6416.
29. M. K(λαύδιος) Εὔρυτος. 6471.
30. Κλ(αύδιος) Ἰππο . . . 6419.
31. Ti. Κλ(αύδιος) K . . . ω . . . 6420. Imperial freedman. Duff, *loc. cit.*
32. Ti. Claudius Po(lybius). 5808; cf. *Add.*, p. 725. Imperial freedman. Duff, *loc. cit.*
33. Κλ(αύδιος) Σεκουνδος. 5920 (cf. *Add.*, p. 725), 6430–6437, 6947.
34. Ti. Cl(audius) Sim . . . 5809; cf. 2632. Imperial freedman. Duff, *loc. cit.*
35. Ti. Cl(audius) So . . . 5760. Although this amphora contained *mola* it is reasonable to believe that the individual mentioned was a farmer and a producer of wine. Imperial freedman. Duff, *loc. cit.*
36. Claudius Trophimus. 5810–5812.
37. Claudia. 5570.
38. M. et L. Claudii. 5629, 5640, 5734, 5804.
39. Clodius Clemens. 5588; cf. 5918 and *vinum Clodianum*, 2564, 6421–6423.
40. P. Clodius Speratus. 5574.
41. L. C(ornelius) He(rmeros) ♀ 5895.
42. Cn. Domitius Auctus. *Not. d. Sc.*, 1899, pp. 392 ff.; cf. *Neapolis*, II, p. 172, note 1. Cognomen indicates freedman. Duff, p. 110.
43. L. Eumachius Eros. *Not. d. Sc.*, 1929, p. 190. Cognomen indicates freedman. Duff, p. 54.
44. Fabius. 5526; cf. *vinum Fabianum*, 2556, 5521, 5522, 5525, 5562.
45. Fabius Cissus. 5830, 5831.
46. Sex. Fabius Secundus. 5829.
47. N. Fufidius Successus. 5837. Cognomen indicates freedman. Duff, p. 110; cf. *AHR*.
48. Gavia Severa. 5743, 5842, 5744, 5843; cf. 5737, 5731. Freedwoman. *Riv.*, VI, p. 105.
49. Gavius Trypho. 5844.
50. L. Helvius Zosimus. 5847; cf. 5753, 5756.

51. L. Herius Florus. *Neapolis*, II, p. 172, note 4.
52. Ἰούλιος Ἀλλιος. 6543. Perhaps another Julius is to be seen on the amphora published in *Not. d. Sc.*, 1927, p. 13: M. Junius (Julius?) Rufus.
53. L. Junius Hermeros. 5653. It is possible that another Junius appears on the amphora published in *Not. d. Sc.*, 1927, p. 13: M. Junius (Julius?) Rufus.
54. Αἰκίνιος Εἰρηναῖος. 6505.
55. Livia Cypare. 5857.
56. Livia Hemera. 5858.
57. M. Livius Marcellus. *Not. d. Sc.*, 1929, pp. 178 ff.
58. M. Lucretius. Predominance of paintings with subjects referring to wine. Helbig, *Wandg.*, Indices, p. 842.
59. L. Mucius Sypo. 5864.
60. L. Octavius Fenestra. 6035b; cf. 6508.
61. T. Oppius Speratus. 5871.
62. L. Popidius Ampliatus. 2607, 2608, 2659, 6188; cf. *Pop. Fu. F.*, 5838-5840. Freedman. *JRS*, 1927, p. 180.
63. N. Popidius Florus. *Neapolis*, II, p. 172.
64. L. Popidius Secundus. 2607, 2608c, 6188. Produced *mola*, *salsa*, *strictura*, and, probably, wine.
65. C. Poppaeus Apollonius. 5878, 5879.
66. C. Poppaeus Firmus. 5880, 5881a, 6153.
67. Q. Postumius. 5605, 5607-5610.
68. A. Rustius Verus. *Riv.*, III, pp. 122-123.
69. T. Siminius Stephanus. *Neapolis*, II, p. 169.
70. P. Sittius Proculus. 5900, 5901; cf. *f(undo) Sittiano imo*, 5528.
71. M. Stlaborius Felix. 2665.
72. L. Terentius. 2667.
73. M. Terentius Aricinus. 5904.
74. C. Terentius Paulus. 5637, 5641, 5648.
75. Valerius Felix. 2565, 5652.
76. M. Valerius Heliades. 5622-5624, 5910; *Not. d. Sc.*, 1927, p. 91.
77. M. Valerius Januarius. 5908. Cognomen indicates freedman. Duff, p. 110.
78. A. Vettius Conviva. *Neapolis*, II, pp. 312-313. Cognomen indicates freedman. Duff, pp. 53 ff.
79. A. Vettius Restitutus. *Neapolis*, loc. cit. Cognomen indicates freedman. Duff, p. 110.
80. P. Vettius Celer. 2607, 2608a, 2679, 2681, 2683, 2684, 2685, 2678, 2680.
81. L. Vettius Valens. 5922.
82. Vibia. 5792, 5909.





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